THE WESTERN JOURNAL OF MEDICINE,

(*Formerly*, "CINCINNATI JOURNAL OF MEDICINE.")

Thus it will be seen that if man has passions which impel him to the destruction of man, if he be the only animal who, despising his natural means of attack and defence, has devised new means of destruction, he is also the only animal who has the desire, or the power, to relieve the sufferings of his fellow citizens, and in whom the co-existence of reason and benevolence attests a moral as well as an intellectual superiority.—GRAVES' CLINICAL MEDICINE.

VOL. IV. INDIANAPOLIS, NOVEMBER, 1869. No. XI.

THE PROGRESS OF MODERN MEDICINE—AN INTRODUCTORY LECTURE, DELIVERED IN THE UNIVERSITY OF LOUISVILLE, OCTOBER 4, 1869.

BY DAVID W. YANDELL, M. D.,

Professor of Clinical Surgery.

GENTLEMEN—The first medical lecture heard by a student of medicine forms an era in his life to which he will recur with interest as long as he lives. He has, in most instances, left home with all its endearments, and is in the midst of strangers, associated with fellow-students eager like himself for knowledge and ambitious of excellence. He has taken a decided step forward in the profession which is to be his future calling. He has entered upon a race, and knows that the eyes of all he loves are upon him. He has struck the first blow in a battle which he expects to wage until he dies. When he shall return home at the close of the lecture term, he is aware that he will be styled "Doctor" by his acquaintances, and be expected to know much about medicine. There is an excitement growing out of the novelty of the occasion which he can never experience again. At the threshold of medicine, where most of you stand this evening, it is important that you should conceive just views of the character of your profession. No man, it has been justly said, is likely ever to attain to greatness

who has not a feeling that there is something in him great. It is quite as true that no physician will ever rise to eminence in his profession who has not exalted conceptions of its worth. If he regards it as a trade, by which he proposes simply to earn a living, he will be pretty sure to pursue it in the spirit of a tradesman. If, esteeming it something lower than that, he adopts it as an art by which he may practice upon the credulity of the people, he sinks into the character of the charlatan. But if, on the other hand, he looks upon it as a science, broad and liberal, and an art at once benign and efficacious, he will enter upon its study with a spirit that is likely to carry him to a high place among its votaries.

The return of this anniversary of the University of Louisville, the opening of its thirty-third session, affords a suitable occasion for taking a brief survey of medicine and determining what progress it has made in this third of a century. The retrospect is one which must gratify the pride of every physician. I trust it will inflame you with a noble ambition, not only to master what is already known in the profession, but to improve and extend its resources. I deem this review the more proper at this time because it has been rather the fashion in certain quarters of late to deplore the decadence of medicine—to speak of it as less respectable than it was at some former period of its history—to express doubts of the efficacy of drugs in controlling disease, or, at least, whether we have improved upon the practice of our forefathers. So far from retrograding, it will be my purpose to show you, in the following remarks, that the profession never made such progress in all the ages since the times of Hippocrates as it has made in our own times, and never stood in an attitude to command so much of the respect and gratitude of men as it does to-day; and that as to the skepticism concerning the curative power of medicine, there never was so little foundation for it as now.

When your fathers were students of medicine, "theory and practice of physic," and "theory and practice of surgery," were the phrases in use. We use the terms science and art of medicine, and science and art of surgery. The meaning of the terms is the same, and they imply that there is a science and an art of medicine and of surgery. They are not the same thing, nor do they necessarily go hand in hand together. Science may exist unapplied; art may be pursued without the guidance of science. Art, it has been said, furnishes hands, and science eyes; and "as science without art is inefficient, so art without science is blind." It is in blindness, if this be true, that the practice

of physic has been for the most part pursued. A few practitioners, in all periods of medical history, have applied themselves to the cultivation of the science of medicine, some with but little reference to the art; but by far the larger number have busied themselves with the art without any concern about the science. And thus it happens that at almost every period of the profession, its art has been far in advance of its science. Remedies were prescribed successfully in many diseases when the functions of the animal economy were still a mystery, and little was known of the morbid states for which medicines were administered. But the case stands quite otherwise in our day. The science of medicine now is far in advance of the art, insomuch that while comprehending fully the nature of the morbid change, we have often to confess that our remedial resources afford no cure for it.

In a single lecture it will, of course, be impossible to do more than mention a few of the more remarkable contributions which, in the last thirty years, have been made to medical science.

Of vast tracts of disease witnessed daily in the practice of Cullen, we fail to find anywhere in his works the least sign of recognition. He knew nothing, for example, of diseases of the heart. He could have given us no positive knowledge of his method of determining whether a patient had pleurisy, pneumonia, or pericarditis. There are many medical men now alive who passed through their pupilage in renowned medical schools without ever hearing the name of Lænnec. Among those who were content with the conjectures of Sydenham, and who were compelled to grope in the dark with Cullen, the announcement of mediate auscultation, through the stethoscope, was deemed simply a vagary. The youngest physician of to-day, enlightened by a knowledge of auscultation and percussion, may pronounce with certainty upon diseased actions that would have baffled Sydenham in the full meridian of his medical powers. The stethoscope has borne a prominent part in the revolution, some of the leading features of which I am endeavoring to portray. A knowledge of it is indispensable. Without it the practitioner can never attain to accuracy in a long catalogue of diseased processes, nor select remedies appropriate for their relief. In an extensive field of most important diseases, it would be better to turn the physician loose among patients without medicine than without training in auscultation and percussion.

It is a fact familiar to all practitioners, that a patient may be shivering with cold, and to the most delicate touch feel cold, while the real temperature of the body is considerably exalted above the natural

standard. DeHaen, of Vienna, was among the first who taught that the hand could not be trusted to determine the heat of the body, and that the thermometer must be called to our aid. He had wonderfully correct conceptions of the value of exact knowledge of the varying temperature of various diseases. We know what problems he strove to solve. We know what results he saw would follow their solution, but the mechanical skill of his day was unable to furnish an instrument adequate to the purposes of his thoughtful mind. The realization of the splendid conceptions which filled his brain was reserved for our times. The pathological lessons which he vaguely hinted at have now passed into the daily teachings of the schools.

The physician of every age has counted the pulse and the respirations of the sick; he now, with the thermometer, measures their temperature as well. The stethoscope and the thermometer alone have placed the science of modern medicine far above the medical science of all the preceding ages. The illustrious Chomel, one of the greatest of French physicians, and among my earlier teachers, devoted himself with singular assiduity to the study of the elementary features of typhoid fever, whereby to determine positively its existence. After years of survey of the various phenomena, he reached this conclusion: If certain conditions show themselves in a certain order of occurrence, and persist through a period of time comprised within from three to four weeks, we may conclude that the disease is typhoid fever. Such were the teachings of one who was esteemed a consummate master of his art—of one over whom the grave has but recently closed. In 1855, Dr. Parkes, in his lectures on the "Proximate Cause of Fever," said: "I shall have to allude to inexplicable phenomena, to vast spaces still unfilled by solid facts, to spots unknown to observation, and to regions lighted only by the dim and treacherous ray of speculation." We ofted had, in typhoid fever, worse than these perplexities. But the evils which beset the illustrious Chomel have been wholly removed from our path. We are no longer misled by the treacherous lights which confused him. We are able to avoid the quagmires in which he sank, and through the aid of the thermometer, advance with certainty to the goal of positive diagnosis. Nor is it in typhoid fever alone that the thermometer is of such decided value. The discovery abounds in valuable fruits in nearly every field of pathology, indeed in all pathological tissue-changes. The variation of a single degree above, or a single degree below, the healthy standard of the body, if it but persist for a time, invariably denotes mischief. If the mercury

rises above, it indicates one form of diseased action. If it falls below, it points to another and a very different character of disease. Each pathological state has its determinate temperature. On this law all the rest hinges. This is our point of departure. From it we proceed to ascertain the typical temperature. The thermometer, while thus enabling us to recognize the special disease before us, is equally valuable in determining what progress the disease is making—whether it is stationary, or moving toward health, or toward death.

Another important element of modern progress, at which I can only glance, is the recognition of the existence of certain diseased actions which are self-limited. A conspicuous example of this class of affections is furnished by intermittent fever. Each of the three stages has a determinate set of phenomena, consuming a definite amount of time. They run their course. The cold stage is succeeded by the fever—this is followed by the sweat, and with its termination the paroxysm is over. This paroxysm of intermittent is typical of the self-limitations of a variety of diseased actions. Typhoid fever is another example. Before the discovery of this law of self-limitation, the practice in typhoid fever was active. The physician labored to cut it short, and the mortality was one in three cases. Under the guidance of modern research the mortality has been reduced to one in twenty-two cases.

The results of the modern methods of studying both physiological and pathological phenomena are not limited to the mere enlargement of the domain of knowledge in these departments of life. There is a precision and accuracy of our facts in vast territories of human interest, where in former times men groped in darkness or wandered in doubt.

When the microscope made possible the Cellular Pathology, as expounded by Virchow, it added another to the long catalogue of obligations under which it has placed the science of medicine. But a little over a generation ago, the whole doctrine of inflammation was in a most loose and confused condition. The term was applied to diverse and incongruous phenomena. The entity, which it was held to represent, was regarded as an evil, as an enemy, which must be subdued at all hazards; against which a relentless war must be waged. We have now come to look upon it as often the best ally that nature has in her service to prevent what would otherwise be irreparable. We now regard it as an elevation of the two processes of nutrition—growth and disintegration. And on these in their normal state all healthful life

depends. When their elevation is in exact parallelism, the processes of inflammation are benign. Their proper management enables us to avert disaster and prevent wide-spread evils. The suffering connected with the reparation of a fractured bone, for example, may make a severe draft on our comfort; but it is small indeed compared with the evils of an ununited fracture. This American discovery of the true relations of inflammation and of the processes of the movement by which nature "educes good from evil," constitutes one of the most important developments ever made in this department of science. For instance: Under the most skillful management of the best practitioners, when the object and the method were to fight pneumonia as though it were a tiger to be destroyed only by successive blows, the recorded loss was one in every three cases. Under the beneficent methods inaugurated by the present enlightened views of inflammation, the loss is not over one in twenty-five or thirty cases.

The question naturally arises here, what are the signs of these improvements in medical science? Has the general tenure of life been increased? Has life, when compared with former epochs, been lengthened among human beings? If neither of these events has accompanied the march of medical science, it may be a march but it is not progress. Our boasted advance is as nothing if it does not show an improvement in the health of communities, an increase of the general hold on life. Such, however, is the fact. The improvements in medical art and medical science have done both these things. Men live now in better health and for more years on the earth than they did in former times.

There are those of our brethren who, shutting their eyes to the dazzling achievements of the present, point to some remote past as the golden age of medicine. They seem to forget that their very work is a standing refutation of the truth of the picture they would draw. "There is constant improvement because there is constant discontent. If we were perfectly satisfied with the present, we should cease to contrive, to labor, and to save with a view to the future." Had not Louis been discontented with what Broussais called "Medical Science," we should not now be enjoying the rich fruits of Louis' philosophical methods. If Bright and his co-laborers had been satisfied with the confused and unsafe tenets of what was called renal pathology, the world might not yet have been enriched with a contribution which is justly esteemed among the most inestimable in medical science.

I might continue this branch of my subject very much longer, and

still leave it unexhausted, but time admonishes me that I must pass on. I have said nothing of what sanitary science has done to increase the comfort of living and add to the length of human life. And yet sanitary science has been created in the half century in which we live. Nor have I time to do more than allude to statistical medicine, a field of never-failing interest, in which the laborers are bringing out most important results; and can only stop to mention Life Insurance, the creation of vital statistics, itself a vast science—productive of incalculable benefits to society. Many other contributions made to medical science in recent times I must, for the want of time, pass by unnoticed. Enough has been said to show to you something of that gratifying progress which it has made in the memory of physicians still in their prime.

But this great increase of our knowledge concerning the nature and results of disease is by no means necessarily attended, as I have already had occasion to remark, by augmented power over disease. The character of the morbid processes may be accurately defined, and yet we may be wholly unable to correct them. Nay, the very perfection of our knowledge may only render us more hopeless as to the result of all remedial efforts. That which our fathers treated as a disorder of function, we often, under the clear light of modern pathology, recognize as a disease of structure. Diseases of the liver and of the brain in which they bled and purged with great hopes of success, we regard as cases of disorganization, which afford no ground of hope. Nor in the utmost improvement of our therapeutics can we ever expect to find a cure for all the morbid conditions which may be revealed by pathology. A boundary has been set to the operations of the human body. Its machinery must wear out and run down. Age obstructs and deranges its organization. The days of our lives have been limited to three-score years and ten, and though by reason of uncommon vigor they may be occasionally extended beyond four score years, still, from the very nature of the frame, it must at last experience decay; and alchemy there is none by which it can recover its healthful action. But apart from this natural decay of the organs of our bodies, we are servile still to those "skyey influences," as they have been termed, which have long waged so successful a warfare against our race. Through them intractable diseases continue to find their way into our systems. Unwise marriages, too, aid in maintaining the list of incurable disorders. The unhealthy organization of parents is entailed upon their offspring, and the free-will of fathers

and mothers becomes the fixed fate of their children. Cancer, consumption, insanity, and mental imbecility are among the diseases thus transmitted from one generation to another. Added to the rest, sensual indulgence comes in still further to swell the catalogue of hopeless maladies, developing cirrhosis of the liver, degeneration of the kidneys, induration or softening of the brain, and other perversions of structure as irremediable as the changes of organization wrought by age. By all these causes morbid states of the organism are induced, which, in the present condition of our art, we have no power of correcting, and which, to the end of time, must remain incurable.

But, while we are obliged to admit that the practice has not kept pace with the science of medicine, and can easily see that from the nature of the case it can never attain to that state of completeness of which the science is capable, still it is flagrant injustice to our therapeutics to affirm, as some are known to do, that they have not advanced at all. Concede to ancient medicine all that is claimed for it by the most ardent admirers of antiquity. Grant that the physicians of the age of Homer, the earliest of whom we have any report, were men of real skill, and made great cures among the soldiers of Agamemnon. I do admit it freely, for the reverence, approaching idolatry, in which they were held, proves them benefactors of their people. I grant, also, that Hippocrates was a great physician, as well as a true philosopher. I admit the claims of Galen and Dioscorides to having administered medicines wisely and well. I give full credit to Paracelsus, who was not content to sit patiently by the bedside of the sick and trust their cure to the *vis medicatrix naturæ*, but insisted on coming in with his heroic chemicals and dispelling disease by their force. I can believe that Basil Valentine, mounted on his *currus triumphalis antimonii*, though he may sometimes have driven it too fast, and not always safely, yet made important cures by his active remedies. I heartily admit the practical skill of the learned Bœrhaave, and that the observant Sydenham was a safe, a judicious and a successful practitioner. All this is conceded to the art of former times. Medicine, in a word, I believe, has been in all its stages a boon to mankind.

Further than all this, I concede to the skeptics, who call in question the value of curative medicine, that many diseases which were formerly thought to be amenable to treatment are self-limited, and run a determinate course, uninfluenced by drugs. I agree that medicines have been many times given injudiciously, and that they may be still sometimes abused. I readily grant that, in many cases, the only ra-

tional course for the physician is to assist nature in her curative efforts. My old friend, once an eminent practitioner, of this city, was, I have no doubt, often right when he said to his hypochondriacal patients, "*Take good advice,*" in answer to their daily question, "What shall I take?" He justly esteemed words to be quite as efficacious as bread pills or homœopathic pellets, and saw no need for active medication in their cases.

But, with all these concessions, I hold firmly to the remedial powers of our art. Cures are no less a fact than disease and death. As well say that steam has not sped the commerce of the world, or electricity quickened communication among the people of the earth as to dispute the usefulness of medicine. We of this school believe in curative medicine. We are persuaded that there is an unequivocal potency for good in many of our remedial agents, and that the number of these is constantly increasing. We repudiate utterly the notion, that the proper proceeding in practice is to leave nature to herself in her contests with disease. We entirely agree with the old writer on medicine, who held that it "is scarce honorable to physicians, and would be very disgraceful to the science of physic, if it afforded no better assistance than looking on to see whether life or death is to be the result of their coming twice a day, and receiving so many guineas." We entertain no doubt of the ability of physicians, as well to arrest disease in its fatal march, as to avert its incursions, and to mitigate and alleviate its suffering. Never, in any former age, we are persuaded, was the healing art so effective, as, assuredly, it was never before so enlightened, as now. Like medical science, though not so rapidly, it is still steadily gaining upon the darkness. The remedies we prescribe are not, in one sense, so active as those that were in vogue half a century ago. They disturb the systems of our patients less; but they are administered with far more precise knowledge of all their effects. The power of remedial agents over disease is greater than ever it was before. The good accomplished by them was, at no time, ever so great, and, what is hardly inferior praise, the mischief done by them was never so small. The practice of physic, while it is gaining in certainty, is also fast putting off the repulsive mein which its harsh medication long compelled it to wear, and is assuming a guise that renders it "a pleasure and a strength" to the sick. Our remedies are as numerous as ever they were, and some of them we still give in herculean doses; but they are not so nauseous as those which formed the *materia medica* of our medical forefathers. We battle not so much with

disease as they did, but attend more to the diatheses and the vital forces of our patients. Discriminating between diseases which are amenable to treatment, and those which tend always to death; between those which may be cut short by medicine, and those which run a determinate course in spite of medicine; the physician of our day has learned when to interpose with active remedies, when to wait upon nature and only attempt to aid her recuperative efforts, and when nothing is reserved for his art but "to soothe the victim no device can save."

Rheumatism, which it was for a long time believed no remedies could cut short, we now arrest with great certainty by appropriate treatment, and, in addition to this, those dreaded heart complications which formerly constituted its most serious danger, are effectually obviated by the modern methods of cure. Life has been lengthened in phthisis many years, and the results of recent efforts at arresting the disease in its incipient stage justify the hope that the diathesis in which it has its origin may be finally overcome, and so the complaint, which now carries off so large a proportion of the human race may be practically abolished. Epilepsy, which has always been regarded as one of our most intractable disorders, is now cured in many instances. The same may be said of tetanus. Great improvements have been made in the treatment of asthma, and of all nervous affections. In alleviative medicine we have witnessed in our own times achievements which border upon the marvelous—discoveries which, in importance to the human family, rival anything in modern science or art. For will not anæsthesia compare favorably with the electric telegraph, the great invention of our century, and, I may add, of our country? The telegraph, indeed, had been foreshadowed by cumbrous instruments, and we were in some sort prepared for its final triumph, by which continents are enabled to speak to each other across the ocean as if face to face. But when the surmise was ventured by Dr. Rush, that an agent would in time be discovered by which all pain would be annulled, while the necessary processes of parturition should go on undisturbed, his prediction sounded like a dream. No one seemed to be looking for its realization, and yet all, and more than he predicted, has been fulfilled. Pain is held in abeyance by our anæsthetics. Operations from which torture was formerly inseparable are now performed while the subject is asleep. Children in convulsions are at once made tranquil. Dislocations are reduced by easy efforts, of which the sufferer is scarcely conscious. Throes the most painful known to the human frame are endured while the patient

is the subject of pleasant dreams. Limbs are amputated, calculi are extracted from the bladder, great tumors are removed with so little disturbance, that patients are continually waking up after the terrific operation is over and asking the surgeon, "Are you ready to begin?"

I might go on for a long time remarking upon the improvements of modern medicine, but I should weary the patience of the audience which honors us with its presence; and, besides, this is the less necessary to you, since, in the several courses of lectures before you, it will be the business of your teachers to instruct you in these discoveries. The thermometer in disease, hypodermic injections as a means of medication, the ophthalmoscope, the laryngoscope, the microscope, the atomization of medicines, the sphygmograph, the improved methods of treatment in epilepsy and asthma and in all other maladies, all will come up in their proper places, and I may with propriety pass them by this evening. When you shall have heard all that is to be said of medicine as it now stands, you will be prepared to form a just estimate of the progress which it has made in the years since most of you were born.

This rapid advance in medical and surgical science and art is due mainly to the wiser methods by which they have been cultivated in modern times. For, while it is true that in every age of medicine some have pursued it in a philosophical spirit, with the mass of medical men the worst processes have obtained. All, for centuries together, was blind devotion to authority, mere guess, vague conjecture, wild speculation.

> "Did Marcus say 'tis fact, then fact it is;
> No proof so valid as a word of his."

That Galen said it was so, was proof enough of the fact with medical men for more than a thousand years. He dissected monkeys, and inferred from their anatomy what was the structure of the human body. When human subjects were at last dissected, and it was ascertained that Galen's descriptions did not apply to them, the inference with his disciples was that the human body had changed. Nature might vary in her course, but their great master could not err.

For many centuries the work of our fathers in medicine was but little else than system-building. A disciple of the old philosopher of Cos now and then made experiments and observations, and multiplied facts which have come down to us; but the large body of those whose names remain were dreamers. They spun out theories in their closets to be adopted, and sworn by, and practiced upon, by the multitude of

their followers. The chief business of every physician who felt himself capable of advancing medical science was to frame a theory of disease. This was deemed the great desideratum in medicine. To this hard problem the medical mind of all nations was laboriously directed, from the age of Galen down to the times in which we live. Each medical philosopher had the task before him, first to overthrow the theory of his predecessor, and then, upon its ruins, to erect one of his own. These wire-drawn speculations, more futile than the reveries of the alchemists, the work of scholars surrounded by their libraries, constitute the body of the medical literature in which the history of our art is written. First came the hypothesis of hot and cold, moisture and dryness, explaining by their reciprocal influence all morbid action; and this theory had an enduring reign. Then was proposed a theory of relaxation and overbracing, which accounted for all the phenomena of disease. Later, the fiery archæus of Van Helmont and the rational soul of Stahl, watching over the human body, were created to explain all the functions of the animal economy, and the origin of all the ills that flesh is heir to. Then appeared the mechanical theory of "lentor and morbid viscidity" of the blood; to be followed by the chemical hypothesis of hostile alkalies and acids pervading and disturbing the economy. The theories of Boerhaave and Cullen succeeded to these; and they were met by the speculations of Brown, who resolved all diseases into the "sthenic" or the "asthenic" class, and found in the lancet or in brandy a remedy for them all. At last America produced a teacher ready to grapple with the great, many-sided question, and propound a theory of disease. Our great Rush saw unity in the midst of contrariety. Disease, according to him, is a unit. One of his illustrious pupils, Dr. John Esten Cooke, was the first Professor of Theory and Practice in this school, and he, too, had his theory. Prof. Cooke is worthy of special mention here as the last of the theorists in our country. He is worthy of special mention on another account—as furnishing, in his life of fidelity to moral and christian principle, an example worthy of the imitation of all young men. He was one of the truest men I have ever known—one of the firmest, bravest, most conscientious and upright. He was, besides, a logician and a philosopher—patient, laborious, cautious and learned. He forged a chain of argument so compact and connected that few students could resist his logical conclusions. He believed implicitly in the truth of all that he taught, and showed by his manner that it was a love of truth and not of victory that impelled him to press his

convictions upon his pupils. His was a very simple theory—that of congestion. It was easily understood. The branches of the vena cava, embracing particularly the veins of the liver, in a state of engorgement from weakened action of the heart—this it was, he held, which caused fever, cholera, dyspepsia, diseases of the liver, brain; in a word, all that might be traced to venous congestion. His practice grew naturally out of his theory, and was correspondingly simple. It consisted in the use of remedies which promoted biliary secretion. First, middle and last it was to purge—to promote consistent alvine evacuations. This theory, accounting so plausibly for many morbid phenomena, and supported by such an array of instances as its learned author adduced in its defense, was generally accepted by the pupils of the gifted professor, and for many years it exerted a wide influence over the practice of the South. The practice, indeed, modified in many respects, still holds its ground with most of those who sat under the lectures of this great and good man. But no advocate of the theory is now found, and with it theorizing may be said to have ceased in the school. It is referred to on this occasion as an interesting relic of the past, being the last effort here to frame a system of medicine.

When such was medicine, students flocked to the schools where renowned masters taught, not to witness experiments and operations, not to make dissections, or see disease in its many shapes, but to hear them expound their systems and listen to the details of their experience. Thus the great Boerhaave sat for years in his chair, at Leyden, with pupils gathered round him from all parts of the world, *reading* his lectures on "peccant humors," describing the fierce contests of acids and alkalies in the system, explaining how the blood was to be thinned by lenitives, and purified by sudorifics; and this was the best method of teaching medicine that then occurred to the medical mind of the world. True, late in life, Boerhaave returned to the processes of observation and experience inculcated by the Father of Medicine, and opened a hospital in which he lectured to his pupils on the history of the diseases before him. Clinical medicine, never wholly neglected during all the reign of theory, thenceforward occupied a more prominent place in most of the schools. But it continued to be incidental and subordinate. The leading purpose of the pupils, as before, was still to listen to the lectures of a great teacher. Rush, Hosack, Davidge and Brown resorted to Edinburgh from America to hear Cullen lecture and learn Cullen's system, as Cullen had gone before to Leyden to listen to Boerhaave. They returned home to institute a similar

mode of instruction. Sitting in their chairs in New York, Philadelphia, Baltimore or Lexington, they read to our fathers and preceptors their carefully-written prelections on disease, and unfolded at length their theories of medicine. Their pupils resorted to the schools where they taught to hear what they *professed*, to drink in draughts of wisdom from their lips, and to be guided in practice by their doctrines. In the courses of lectures upon which they waited they witnessed a few chemical experiments, made, perhaps, some cursory dissections, saw an occasional bit of surgery, and walked the wards of the hospitals in crowds to hear remarks made on patients whom they were not able to see. But their chief purpose in going to the schools was to hear great teachers, not to use their hands or eyes. Their highest ambition was to master the theories of some illustrious professor. His philosophy was to be their guiding principle—his recipes their anchor in practice. Demonstration was the accident, dissertations were the rule. Material helps were nothing; the professors were everything. One great name often made the school. The chemist read from his chair accounts of the newly-discovered oxygen, carbonic acid, chlorine, and hydrogen, carefully sealed up in glass bottles; and the professor of anatomy read minute descriptions of bones and blood vessels, muscles and nerves. Dr. Drake relates of himself that the first task assigned him on commencing the study of medicine, was to commit to memory Chesselden on the bones and Innes on the muscles, without a skeleton, or so much as a plate to lighten his laborious duty.

How completely all this has been changed in our day I need not point out to you at any great length. You are all aware how largely demonstrations now enter into every course of medical instruction. It is not merely to hear but to see, as well, that students now repair to the medical colleges. When a young man, now nearly twenty years ago, I took the ground in some remarks which I had the honor to make before the American Medical Association, at its meeting in Cincinnati, that medical schools must rest upon hospitals and other public charities, where disease in its progress and terminations might be studied; that the sites for them were not sequestered villages or quiet country towns, places the most favorable to the study of books, but in the din and bustle of crowded cities, where most casualties occur, and the greatest number of sick people are treated at the public expense. I contended that the schools which had not the means of imparting clinical instruction on an ample scale must eventually decay. These views, it is safe to say, are those which are now universally

accepted in regard to medical teaching. The maxim of the profession has come to be, *no clinical facilities, no medical school.* The schools are now made by the clinics and the other means of demonstration. The great schools of the world in our day are found where there is most to be learned by observation—where there are the most subjects for the study of anatomy, the most patients for the study of disease, the greatest number of surgical operations to be seen, the largest and best-arranged laboratories, and the best cabinets and museums illustrating all the facts in the history of disease. Mind is as indispensable as ever to direct in the schools. Mind must preside over and marshal the materials, educe from them and indicate the lessons they teach, and guide the young student in his course of study. Teachers there must be still, not less than laboratories and museums, hospitals and subjects—teachers formed by nature as well as by education to teach—teachers who have the gift of utterance as well as the necessary stores of knowledge. Without them, all material aids are unavailing. No amount of apparatus, no number of diseased people will make a physician without a master. But the master, now-a-days, is nothing without the subjects and the apparatus. You would laugh to scorn a professor of anatomy who should come before you with a written description of the eye instead of the eye itself, or a model exhibiting its structure. You would not listen long to your most eloquent teacher of chemistry if he should content himself with reading to you about the reaction of agents hermetically sealed up in glass jars. Pupils no longer accept the *ipse dixit* of their instructor. They no longer swear in the words of some great master. They demand proof of all that is asserted. The question with them is, not what says the teacher, but what are the deductions to be made from a series of clinical cases? What do the statistics of the matter teach, not what the professor believes, is the great inquiry. And he is the *successful* teacher who enriches the minds of his pupils with the greatest number of valuable facts—who, at the same time that he makes them learned about disease, makes them also handy in its treatment—who brings before them human ailments in the greatest variety of forms, and instructs them how they may be best remedied.

This, indeed, is the ideal which every conscientious teacher holds steadily in his mind, and toward which all his efforts are directed—to show how disease is to be cured—to be cured safely, speedily, and with the least discomfort to the sufferer. To this noble end all your studies have reference. It is in the expectation of being taught your

profession, under the best lights and in its most advanced state, that you have come here to follow the several courses of lectures in this institution. You expect to be taught by this faculty how to cure disease, or how to prevent it, and how to prolong human life and alleviate human suffering. These just expectations, I believe, will not be disappointed. We greatly deceive ourselves if this school is not fashioned after the ideal which I have attempted to hold up before you as a perfect school. It will be our constant endeavor to render our courses of instruction useful to you—to illustrate everything that can be made more plain or impressive by models, or apparatus, or morbid preparations, or the living subjects of disease. We are nothing if not practical. We claim none of the respect of the profession if we are not upon the true line of professional improvement, and if the style of our teaching is not according to the spirit of the age and up to the most improved method of the times. Not that we profess to present to you a perfect school of medicine. Far from it. Imperfection attaches to all human institutions. Medicine itself is progressive, and not until it has reached its utmost limits of development can medical teaching attain to perfection. But we claim to be on the alert to catch the first intelligence of any advance in the science of the art, and to have adopted whatever there is of wise innovation in the methods of teaching medicine in our day. Clinical in design from the beginning, we are striving to make the University more and more a school of Clinical Medicine. If any of its earlier pupils should return here this winter, they would find us in the path which Caldwell and Drake sought to tread when they were here—still drawing lessons of practice from the records of hospitals, infirmaries, and dispensaries, but with ampler materials than our city afforded at that early day. They would miss most of the familiar names which first gave lustre to the school, but they would freely admit, I am sure, that we have made some improvements upon the teachings of our illustrious predecessors. Not only would they find the number of chairs in the University increased, but would remark that far more attention is given to making every part of every course demonstrative and practical. And so you, when you shall return to your *Alma Mater* at some distant day will in all probability find some of us gone; but our places, I doubt not, will be filled by those who will bear our benign profession forward after us, as we claim to have carried it beyond the point where our ancestors left it, and improve upon our method of teaching, as we think we have improved upon theirs. The institution can not

perish, but will grow with the growth and strengthen with the strength of the city which endowed it with its ample grounds, its spacious edifice and its rich library and suites of apparatus. The building may fall a prey again to devouring fire, but its vigilant trustees see to it that provision is constantly made for its reconstruction in case of such an accident. Its means for imparting medical instruction will be augmented every year with the growing population and resources of our city. A third of a century, the time not yet quite elapsed since its name first appeared in the catalogue of American medical schools, is a very brief period in the history of a foundation such as it is. The institution indeed may be said with perfect propriety to be yet in its infancy. Your remote descendants, when any of them, influenced by your example, repair to it to be instructed in the healing art, as you have done this evening, will find it only the more vigorous for its accumulated years, and richer in everything pertaining to medical teaching. Its corps of teachers, progressive men still, as I can not doubt they will be, earnest, energetic, zealously laboring for the advancement of medicine, still abreast with the discoveries of their times and contributing to their number, not less elevated in moral tone than distinguished for professional learning and skill, will advance its claims still higher to the respect of the profession and the gratitude of men.

UPON THE RELATIONSHIP BETWEEN EPITHELIUM AND BLOOD, PUS, CHYLE AND LYMPH CELLS.

BY J. GARDNER, M. D., BEDFORD, IND.

There are sveral varieties of epithelium, and they have names more or less arbitrary.

That which forms the epidermis is "squamous;" that of the choroid coat of the eye, is "tessellated;" that of the intestines, is "prismatic," or "conoidal;" that of the bronchii, is "ciliated;" and that of the liver, kidneys, lymphatics, &c., is "glandular."

Each of these types has its modifications, which insensibly run into other types; so that it is often difficult to tell precisely which class an individual specimen belongs in.

There are two great divisions into which they should be separated,

according to their physiological functions. The offices performed by them should be the index of their belonging.

Nearly all flat epithelium is protective in its character, and expends all of its energy in keeping off violent or destructive influences from tissues beneath, and reducing friction to its minimum in opposing surfaces. The squamous epithelium of the dermoid structure acts as a shielding armor to the delicate nerve filaments that form such a closely interlacing plexus of sensititive fibers through every part of the vera cutis and rete mucosum.

Without this, every portion of the surface of the body would be the seat of most excruciating pain whenever touched—no matter how slightly—by any foreign body.

Tessellated epithelium is akin to the squamous, but is more regular in form, the edges of the cells fitting accurately together, without overlapping, as in the previously described kind. The skin of the frog shows this in the most beautiful manner.

The membranes of serous sacks are covered with tessellated epithelium, which is so smooth that the continuous gliding of the surfaces over each other, as in the respiratory act, or in the peristaltic motions of the intestines, is entirely unnoticed.

The epithelium of serous membranes has the power of secreting a limited quantity of fluid for lubricating purposes, which is the true synovia.

Sometimes the secretory action becomes excessive, in which case a dropsy of the part results. At other times, through the influence of morbid agency, the secretion is entirely suppressed, and a train of morbid action follows, which is of lasting damage.

The friction sound of pleurisy is so caused; as is, also, the creaking heard in the joints in articular rheumatism.

Idiopathic peritonitis commences with an unnatural dryness of its epithelial surfaces.

The involvement of serous membranes in inflammatory processes is always more painful than when mucous membranes alone are affected, because of friction (motion) existing as a normal condition. The gliding of the surfaces is unnoticed when the parts are in health, but it becomes unbearable in disease.

Glandular epithelium is found in the tubuli of the kidneys, in the ducts running through the general system of lymphatic glands, in the entire body, and in certain special localities. It has an office separate and distinct from that of protection; though that is probably em-

braced in it in a subordinate sense. Its principal mission is secretion and elaboration.

Under the head of elaboration we must include the excreted fluids of bile, urine, and perspiration. There are other minor secretions, as cerumen of the ear and meibomian glands, of Cowper's glands, the prostate and testis; all of which present the singular spectacle of widely different results of physiological action upon these apparently insignificant bodies.

The size of epithelium cells of each class is variable, but is confined to certain limits. Where there is more than one layer, the internal cells are rounder and contain more fluid than those of the surface. External causes have much to do with their degree of development, and the time of their desquamation.

Solutions of the alkalies, if concentrated, dissolve the cell walls to form a kind of ropy substance.

Ciliated epithelium is actively vital for a considerable length of time after it is removed from its natural locality; providing it is furnished with a sufficiency of the fluid in which it was bathed, and it is kept at the natural temperature of the body from which it was taken.

This variety has a triple office to perform, to-wit: protection, secretion and propulsion. The vibratile cilia crowning the free ends or bases of the conoidal cells act as so many sweeps to carry forward any excess of mucus that would accumulate in the minute bronchii and air cells, and act as an irritative foreign body. They also carry off any particles of dust or other solids that are carried into the lungs during inhalation.

There are strong reasons for believing that tuberculous deposits in the lungs would be much rarer if the ciliated epithelium lining the mucous surfaces of the lungs would preserve its integrity.

Tubercle corpuscles are probably nothing more than immature or aborted epithelium cells.

What is more rational, when we consider the functions of ciliated epithelium, than that an impairment of its activity, or the denuding of the membranes of it, should allow detached portions of it, with mucus, soot, and dust to accumulate in the air cells, solidify, soften and become purulent, to the destruction of the contiguous tissues?

The causes operating upon the epithelium of the lungs often affect, sympathetically, the epithelium of the entire body.

The hair and nails also show the intimate connection existing be-

tween mucous surfaces everywhere; in their sympathetic departure from a healthy standard.

But it is to the conoidal or prismatic epithelium of the intestinal canal, that we must look for the key to the whole system of assimilation and nutrition. It covers almost the entire surface of the canal, from the cardiac orifice of the stomach to within two or three inches of the anus. When we consider the immense amount of surface produced by the duplicature of the mucous membrane, and the increase upon that of the papillar projections of the villi; and remember that every villous prominence has an investment of conoidal epithelium, with the pointed ends attached to the membrane, and the sides coaptated together, with the bases forming an even surface of polygonal cells outwards, and that it is by their agency alone that the whole assimilation of alimentary substances is carried on, we must at once admit that they take a leading place in the phenomena of life. Each cell is a living body—a gland of the most primitive type. It is composed of a nucleus, a cell wall and a contained fluid. Some of the continental observers have thought that they discovered delicate mouths or apertures in the bases of the cells, whereby they admitted the chyme from the intestinal canal. This appearance was probably illusory, and the real mode is by transudation or endosmose. Certainly after a meal they are found to be filled with granular contents identical with the chyle granules found in the mesenteric glands and lacteals. The lacteals take the granular contents of the epithelium and pass them to the mesenteric glands, wherein they are further elaborated and sent through to the thoracic duct, and from thence to the general circulation.

After prolonged fasting the epithelium covering the villi is found to be comparatively empty.

After death all glandular epithelium and all epithelium having a contained fluid undergo a coagulation of their contents, which renders it opaque. The corneal opithelium undergoes a solidification of its albuminous endoplast, which manifests itself in the glazing of the eye after life leaves the body.

The rice-water discharge of cholera owes its color principally to the prismatic epithelium of which the intestinal villi have been denuded. When the mucous membranes are thus denuded, the lacteals have but slight opposition to the pouring out of their contents. The blood is in a like manner defrauded of a large quantity of its plasma, and loses its power of coagulation.

The fibrin transudes through the delicate membrane denuded of its epithelium, and leaves the more solid contents of the blood to carry on an imperfect circulation for a time, until the blood becomes so impoverished that it is no longer capable of supporting life; collapse ensues, and death closes the chapter.

The death and exfoliation of a large part of the epithelium of the intestines would not be of such exceedingly disastrous consequence, but that the same noxious causes producing them, at the same time destroy the vitality of the germinal matter, more or less completely, throughout the entire system.

The clear fluid or endoplasm within the cell walls has the power of transmitting material properly prepared by chymification, through the interior of the cell to its apex, where it transudes into the lacteals. At the same time it imparts to the chylous fluid a portion of its own living substance by which it becomes further prepared for organization.

As it advances through the mesenteric glands, it is matured into the true chyle cells.

A similar set of vital operations is being carried on by the lymphatic glands in all parts of the body; with this difference: the lymphatics derive their material from breaking down tissues, which it re-elaborates into the lymph cells, which are, in every respect, identical with chyle cells.

The chyle and lymph corpuscles are also identical with the white corpuscles of the blood, and it is through the agency of them that nutrition and repair are mainly affected. This may be witnessed by irritating the web of the frog's foot, at which the blood rushes to the point irritated as though it had especial volition. Upon examining the blood producing the stasis of the part, it will be found to contain a much larger proportion of the white cells than the general circulation possesses. If the irritation is carried further and prolonged, pus will form.

The difference between mucus, pus and lymph, is not in their solid or corpuscular parts, but in their plasma. *Lymph* is highly fibrinous, and consequently spontaneously coagulable; while pus is albuminous, and is only coagulable by heat or chemical agency.

Thus, when a lacerated or incised wound is inflicted, nature attempt repair of the damage by the speediest method first; this is a union by first intention. This always takes place through an agglutination of the surfaces together by coagulable lymph. When, through

the nature of the wound, or other causes, as vice of the constitution, this fails in part or in whole, nature has a last resort for repair, which is the suppurative process.

In this the same white cells are used, or others so like them that they are undistinguishable, but the plasma is different. It is albuminous and not spontaneously coagulable. The process must now be a building up by granulation; a literal generation of new tissues. It is not certain that the entire pus cell ever enters into the formation of new tissue, but it is probable. If it does not, it imparts a portion of its germinal matter to the plastic material that is to be transformed into such tissue. A small portion of this germinal matter is capable of acting upon a large quantity of unorganized fluid and of changing it into organized or formed material. It is the little leaven that leavens the whole lump.

Every true cell is at some period of its existence a secreting gland. The white blood cell, lymph cell, chyle cell, mucus cell, pus cell, and epithelial cell are all glands—glands of the most primitive type; but still glands. The five first are free migratory glands, which travel wherever they are most wanted; the last is attached and stationary.

The red blood corpuscle is not a cell, neither is it a gland; nor does it exercise any immediate agency in the repair of lesions or the waste of tissues. The red corpuscle is homogeneous in structure, of semi-fluid consistency, and is destitute of both a cell wall and nucleus. This may be proven by witnessing the breaking in two of a corpuscle, in which there is no escape of contents, nor collapse of walls. This establishes the homogeneiety of the mass composing the disc. Another evidence, and one of itself sufficient to prove the position, is the fact that the red blood corpuscles of some of the rodents—the guinea-pig especially—undergo spontaneous crystallization after being drawn from the blood vessels. Every red blood disc is wholly transformed into a separate crystal of a beautiful ruby red color. The whole red corpuscle, then, consists of hæmato-crystallin, and is a proximate principle.

This property of the red blood corpuscle may be taken advantage of in medico-legal cases where blood-stains are found upon the clothing or utensils of persons suspected of murder. If the blood be human, the dilution of it with water and the passage through it first of a stream of oxygen, and afterwards of carbonic acid, will convert the corpuscles in crystals. The fluid should be allowed to rest a day or two, for the crystals to subside.

The blood of the ox is of nearly the same appearance under the microscope as that of the human subject; but it yields no crystals by this process. By this we have an additional aid in differentiation between the two.

Red blood corpuscles are oxygen bearers to, and carbonic acid bearers from the tissues. Whether the respiratory process is one of combustion, according to Liebig's theory, or one of metamorphosis of the tissues of a more complex kind, according to the views of later physiologists, the facts are the same; they are simply carriers. They load with oxygen in the lungs, which they distribute all along the vascular highways, and then load with carbonic acid, which they carry back to the lungs, to be discharged; and pass again through the same round of changes.

This is not a perfectly complete process; as there are always some venous discs in arterial, and some arterial discs in venous blood.

The birth and growth of red blood corpuscles probably take place in every part of the vascular system. A particle of clear colorless germinal matter appropriates the surrounding plasma until the size attained is sufficient, it then takes coloring matter, and the germinal matter then changes into formed material with the balance of the disc, or it passes out to again act as a blood-maker, by inciting other plastic formation.

All free cells whose walls are not too dense, have, while living, a distinct animal motion. Those of chyle, lymph, pus, and the white blood, have a movement called amœbæform, which must be seen to be understood.

It is possible that they have the power to pass through the thin capillary walls, and change into the formed material of the tissues.

Ciliary epithelium has a rythmical motion in its vibratile filaments that has been compared to the motion of corn when the wind blows over it. The waves are continuous, and all pass one way, which is from within the sack towards its outlet. There may be an exception to this in the uterus and fallopian tubes, to facilitate the forwarding of the spermatozoa to the graafian vesicle. The direction of the ciliary vibrations may also be reversible, to carry the vesicle to the uterus from the ovary.

Spermatozoa, which are but a modification of epithelium, have a progressive movement, which is eel-like, and peculiar to themselves. The propulsive power resides in the tail-like elongation, and it is sufficient to carry them forwaad at a rapid rate. The motion is essential

to carry them through the body of the uterus to the fallopian tubes and ovaries, where they come in contact with and penetrate the graafian vesicle to make it fertile.

We thus see a community of origin and a unity of germination in all of the cells which we have described. It is through them that all vital action is maintained, and anything that attacks them undermines the foundation of life.

The Power that vitalizes all living things, has seen fit to choose the smallest and simplest forms by which to build up the most complex animal structures.

As an example of the vital power of germinal matter, let us cite the influence of the virus of any of the modifications of variola. We see there that a minute portion—less, probably, than the hundredth part of a grain—is capable of impressing its peculiar nature upon every particle of the body. And not only every atom of the body at that time, but through them to all which succeed them; and to such an extent is this done, that it gives entire immunity from all subsequent invasions of any of its congeners.

CATARACT.

BY J. THOMPSON, M. D., HARRISON, OHIO.

James Gold, aged eighty-two years, presented himself to me last May, and gave the following history:

Has been totally blind in right eye for fifteen years, and partially blind in left eye for seven years; said his case was deplorable; that he could hardly see to get about; could not count his money; could not distinguish one bank bill from another; nor could he recognize his friends by sight.

On examination without the aid of artificial means, a total, hard, lenticular cataract of right eye, and by the aid of oblique illumination and the ophthalmoscope, a partial cataract of left eye was discovered. He could count one's fingers with left, but could only distinguish light from darkness with right eye. Has very overhanging supra orbital margins and eyebrows; eyeball very much sunken; arcus semilis very distinct; anterior chamber very shallow; integument very flabby, and subject to attacks of eczema.

Pupils quickly responded to atropine; vitreous showed no sign of liquefaction. He had no cough; neither did he have any symptom of diseased kidney.

As he wanted my opinion as to the probable utility or result of an operation, I gave it as follows:

It was by no means such a case as one would select were he simply seeking eclat, as the chances against a favorable result preponderated over those in favor of success from an operation; and were he to wait until the lens of left eye became totally cataractous, he would then the more readily appreciate a good result from operative interference. But, on the other hand, as he was advanced in years, and already feeble; as he had no cough, and as one eye was already useless to him, and the other rapidly passing into the same condition, and as it was impossible for us then to foresee the condition of his health when total blindness established itself, and as the dread of total blindness rendered his life miserable, we therefore left him to determine the matter for himself.

After consulting his relatives, and duly considering the matter, he concluded to take the risk of an operation. Accordingly, a dose of sulph. magnesia was administered on the 16th of June, and on the 17th I extracted the lens, assisted by Dr. W. C. Cooper, of this place. The operation was the one known as the "Modified linear extraction of Von Gräffe."

The stop speculum was used in this case, the temporal end of which had to be pressed back by an assistant, owing to the sunken condition of the eyeball. Great care was necessary in passing knife in front of iris, owing to shallowness of anterior chamber. The sclerotic incision, as well as the iridectomy, were made in upper section of globe. The capsule was freely lacerated, after which the lens was easily extracted by pressure with spoon above and with knife handle below. He counted my fingers immediately after operation. The lens was dark brown and very hard. A compress was then placed over both eyes, half a grain of sulph. morphia administered, and patient requested to remain in a horizontal position for two or three days.

The old man was a very troublesome patient, difficult to control, being hypochondriacal. He got on his feet the day after the operation for the purpose of ascertaining "whether he had lost the use of his feet!"

On the third day subsequent to operation he was troubled with

strangulated inguinal hernia, which I feared would have to be operated upon, but fortunately opium and the taxis relieved the difficulty.

After the above date he progressed rapidly. Wound of sclerotic united by the fourth day, walked about the house on the sixth day, found him weeding his garden on the twelfth day, and by the 15th of July all redness of conjunctiva and sclerotic had disappeared. September 16th, furnished patient number three convex spectacles, which enabled him to read moderately large print, and number six for distant objects, with which he could readily read names on signs across the street.

The above case is reported simply to show that notwithstanding the age and miasmatic debility, chronic cutaneous affection, &c., of patient, a remarkably good result obtained.

A CASE OF PARTIAL PROLAPSE OF THE UMBILICAL CORD RESTORED BY THE AID OF THE KNEE AND ELBOW POSITION.

BY N. D. GADDY, M. D., VERNON, IND.

I was called to attend Mrs P., aged twenty-five years, in her third confinement, on the 29th of last January.

On examination *per vaginam*, I found the head presenting, os uteri fully dilated, and through it pouched the unruptured membranes.

By the side of the head I detected apparently several coils of the umbilical cord. Finding my efforts to elevate the cord with the patient on her side or back ineffectual, and that its complete descent was prevented only by the membranes remaining intact, I caused her to assume the "knee and elbow" position. Or, what is correct, she was placed with her knees on an elevated part of the bed, and while her hips were thus elevated, the breast lay as low as possible.

I then introduced my hand into the vagina, and with my fingers gently moved the coils of the cord, which, when started, quickly rolled down out of my reach.

The ease with which this was accomplished was as much surprising as it was to me satisfactory.

A large, healthy girl was born soon afterward, without any more trouble with the cord subsequent to its reduction.

OBSTINATE EPISTAXIS.

BY J. W. MOORMAN, M. D., HARDINSBURG, KY.

In the September number of the *Journal* for the present year appeared a very interesting article on Epistaxis, from the pen of Dr. John D. Jackson, of Danville, Ky.

Epistaxis, though of frequent occurrence, is rarely deemed of sufficient importance to demand professional aid; hence, it is only in the most obstinate cases that the physician is called to interfere. Almost every one has a list of *specifics* which must be tried in succession before the physician is consulted.

In an extensive practice of several years I can call to mind but few cases of this form of hemorrhage requiring medical aid. Of the cases coming under my care, in at least an equal number the frequency of recurrence gave more trouble than the actual loss of blood at any one time. In this class of cases gallic acid in pretty full doses, continued for some length of time, is the only remedy usually required, but occasionally a short course of iron has been given to improve the condition of the blood, taking care to allow intervals sufficient to remove all risk of incompatibility.

In an article in the *American Journal of the Medical Sciences* for October, 1865, I called the attention of the profession to the use of the oil of Canada Fleabane, (*Oleum Erigerontis Canadensis*), in the different forms of passive hemorrhage; and some cases pertinent to the subject were reported. Since that time I have had opportunity to test its virtues in a large number of cases, some of which were epistaxis of a very obstinate character, and in no case have I been disappointed in its effects.

My method of using the oil in epistaxis, as well as in hæmoptysis, is to drop twenty or thirty drops on a handkerchief or into the palm of the hand, and inhale as rapidly as possible; at the same time half a drachm may be taken internally. Should this not prove effectual in a short time, a dossil of lint may be moistened with the oil and introduced into the nostril as high as possible without injury to the mucous membrane. This should be allowed to remain several hours, and is easily removed at the end of several days.

With the precise mode of action of the oil I am not acquainted;

whether it be some specific astringent action belonging to the oil, or whether it acts in the same manner as its kindred, the terebinthinate oils, is not definitely known, but it certainly exercises a very powerful influence over the hemorrhages.

A domestic remedy very efficacious in the treatment of epistaxis, is the continued application of cold to the scrotum of the male, or the mammæ of the female. I have been much pleased with the action of this remedy in some very severe cases resisting the usual methods of treatment.

In making these suggestions, I would not seem to wish to detract from the value of Dr. Jackson's ably written paper, which is, indeed, the most exhaustive I have seen upon the subject. My desire is, simply, to bring before the profession a remedy which, I trust, will do as good service for others as it has for me.

BIBLIOGRAPHY.

A TREATISE ON THE FUNCTION OF DIGESTION; ITS DISORDERS AND THEIR TREATMENT.

BY F. W. PAVY, M. D., F. R. S.

Fellow of the Royal College of Physicians, &c., &c. Philadelphia: Henry C. Lea, 1869. Pp. 246, 8-vo.

The subject of digestion is one of unusual interest, but being so fully discussed in all the works on physiology it seems to us that it might have been omitted in this, the design of which is mainly practical. Every physician may be presumed to have read as much as he has any curiosity to read about prehension, mastication, insalivation, &c., and will consequently be apt to pass by the chapters treating of these processes without notice. Writing as we do for the busy practitioner, we shall pursue the same course.

Dysphagia is one of the troubles pertaining to the function of digestion, and it is one which has its origin so generally in mechanical causes, or in malignant disease, that practitioners are too prone to look upon it as irremediable. Dr. Pavy mentions instances in which the difficulty in swallowing depended upon causes that were easily removed. A case is cited in which Sir B. Brodie relieved a dysphagia

of several years' standing by the removal of some internal hemorrhoidal tumors. In the paralytic variety electricity has been employed with success. Where it is the result of constriction induced by swallowing corrosive agents, it may be a question to be submitted to the patient, after all other efforts at removing it have failed, whether an artificial opening into the stomach shall be made with a view to introducing food and sustaining life.

It was by such an artificial opening into the stomach, acidentally made, as all medical readers know, that the great impulse was given to modern physiological research in regard to digestion. To Alexis St. Martin all writers on this subject refer for facts which could never have been revealed except by such an exposure of the interior of the stomach as he afforded in his case. A woman in Germany has since presented to Bidder and Schmidt an opportunity of making similar observations, and by gastric fistulæ in the dog, physiologists have varied and confirmed the experiments upon the human subject. As the result of all these, our knowledge concerning digestion has been greatly enlarged. The learned Dr. William Hunter, in his lectures on anatomy, used to say: "Some will tell you, gentlemen, that the stomach is a stew-pan, some that it is a mill, and others that it is a fermenting vat; but I say that it is neither a mill, a stew-pan, nor a fermenting vat, but a stomach, gentlemen, a stomach." His more distinguished brother, John Hunter, insisted greatly upon the vital principle as the efficient agent in digestion, as in all animal functions. Great would be the surprise of these eminent physiologists if they could return to earth and see how nearly to a chemical process digestion has been reduced. Vitality is not essential to it, although one of the elements concerned in it is a product of life. There is no digestion without pepsin, but pepsin, the secretion of the stomach, is insufficient without an acid. John Hunter directed attention to the fact that the stomach is sometimes found digested after death. The gastric juice never produces any such effect during life. The explanation of Hunter was that the "living principle" protected the organ against the solvent fluid.

The explanation given to the world by our author of this curious fact is a much more satisfactory one. It is this: that the alkaline blood neutralizes the acid gastric juice. When the circulation ceases and there is no longer a stream of alkaline fluid sent through the stomach, then the gastric juice, always present in the mucous follicles of that organ, reacts upon and dissolves it as would any other digestible matter. A rabbit's ear or a frog's leg inserted into the stomach of a living dog,

is corroded by the gastric fluid, because the quantity of blood in them is not sufficient to neutralize the acid afforded by the stomach. That the stomach is not oftener found to have undergone digestion after death, is due to the fact, Dr. Pavy contends, that the temperature of the body so soon falls below the point compatible with that process. He has repeatedly caused the solution of the stomachs of rabbits by keeping their bodies at a temperature of one hundred degrees Fahr., during a single night. Parasites seem to escape gastric digestion by burying themselves in the mucous coat of the stomach. The older physiologists proved by experiments that leeches and earth-worms, when brought under the influence of the gastric juice, are digested like morsels of ordinary food.

Of vomiting our author treats at considerable length, and on account of the greatly varied circumstances under which it takes place, the subject is one of much interest to the practitioner. To allay it we must find out its cause. Ice, hydrocyanic acid, creasote, pepsin, opium or morphine, chloroform, a mustard poultice—some one of these will allay almost any vomiting which is not the result of renal or cerebral irritation. The state of the bowels also claims attention, and their regulation is necessary, not only in cases of gastric irritability, but in all the forms that indigestion assumes.

On the subjects of eructation, rumination, pain and other morbid sensations of the stomach, flatulence and acidity, the remarks are brief and generally practical. Some curious instances of rumination in man are cited from old writers, who believed that there was a double stomach in those who practiced it, and that some of the individuals at least had horns, indicating a further affinity to the bovine family. Sennert has left behind him the history of a case the origin of which he traced to the use of milk "warm from a cow." The child, according to this medical philosopher, sucked in the habit with its nurse's milk! A case is reported from Dr. Copland of a man who ruminated his food habitually. From a boy he had been troubled with acid eructations. After having reached his thirtieth year he found it impossible to resist admitting into his mouth the food that constantly gurgitated from his stomach. Being asked whether the second mastication of his food afforded him any pleasure, he replied: "Indeed, it is sweeter than honey, and accompanied with a more delightful relish!"

Intestinal digestion forms the subject of an extended chapter. In the stomach, the nitrogenous elements of food are acted upon by the gastric juice. It remains for fluids found in the small intestines to

complete the digestive process by emulsifying the fatty matters, and converting the starch into sugar. This is done chiefly by the pancreatic juice, which, however, according to the latest views, seems to be endowed with very diversified powers, taking part in the digestion of nitrogenous matters, as well as of oleaginous and farinaceous substances. What part the liver performs in the process of digestion is still undetermined. From recent experiments performed by Dr. J. H. Bennett, it appears that the bile may be dispensed with altogether in the dog for a long time without much inconvenience. In one instance the animal actually gained flesh while the hepatic secretion was for months diverted from the duodenum by a fistula.

Colic, flatulence, diarrhœa and constipation are the troubles incident to intestinal indigestion, to which the concluding chapters of this work are devoted. Of these the least is the most frequent and the most refractory. Constipation is the curse of dyspeptics. It is both the consequence and the cause of their disorder. Indigestion is induced by it, and when established, every symptom of the disease is aggravated by its continuance. To its correction the remedial efforts of the physician are to be mainly directed. And our author justly remarks, that it is the laxative group, or milder form of purgatives that is usually required in such cases, and moderate doses, repeated at short intervals, rather than larger doses at longer intervals. The kind must be determined in each individual case; but in far the larger number of instances it will be found that saline laxatives, taken before breakfast and largely diluted, move the bowels most certainly and with the least discomfort to the patient. Common salt may be taken in this way with the greatest advantage.

Dr. Pavy devotes a few pages at the close of his volume to the subject of "artificial digestion as a means of dissolving meat for producing an article of nourishment for the invalid." He is not satisfied with what Liebig has offered to the profession in the shape of beef tea, and is seeking for a process by which all the constituents of meat may be dissolved and appropriated to the support of the sick. He has hopes of being able to prepare a fluid which shall be at once palatable and eminently nutritious. He uses the same menstruum that is employed by nature for dissolving meat, and when the solution is obtained he neutralizes the hydrochloric acid by carbonate of soda, which leaves chloride of sodium or common salt as the product. This substance, on theory, leaves the stomach nothing to do. Its taste seems to be the chief obstacle to its use, but this may be overcome by

improved methods or by condiments. The agent when received gratefully by the patient, is said to afford "a sense of satisfaction to the stomach, like that which is derived from the consumption of solid animal food."

The impression left upon us, after going through this work, is the same made by the perusal of its first pages, and that is, that the anatomical and physiological details would be well replaced by matter of a more practical character. But it is a volume of decided interest, and we recommend it to our readers.

ST. AUGUSTINE, FLORIDA: SKETCHES OF ITS HISTORY, AND ITS ADVANTAGES AS A RESORT FOR HEALTH, &c.

BY AN ENGLISH VISITOR.

G. P. Putnam & Son: New York. 1869.

FLORIDA AND THE SOUTH: A GUIDE-BOOK FOR TOURISTS, INVALIDS AND EMIGRANTS.

BY DANIEL G. BRINTON, A. M., M. D.

George Maclean: Philadelphia. 1869.

These little works will attract attention at this season, when the thoughts of invalids are turned towards resorts for the approaching winter. If all be true that the English author writes of St. Augustine, it does not fall very far short of that earthly paradise of which Ponce de Leon was in search when he discovered Florida. What with its balmy atmosphere, its soft moonlight nights, its forests, flowers and fruits, it presents to the traveler who is in search of pleasure or health, a combination of attractions hardly to be found any where else on our continent. After reading the glowing descriptions of the country by this visitor, we confess we felt the keenest desire to start at once for this land of flowers. Nothing, it seems to us, could be more delightful than a winter where green peas may be had in January, and tomatoes in March—where orange blossoms, scarlet pomegranate, yellow capporelle and crape myrtle perfume the air all the year round. Of the influence of the climate upon patients with pulmonary affections, this author says:

"It is no uncommon case for consumptives to live for ten or fifteen years with but one lung, in a climate such as St. Augustine, where no bitter wind ever irritates the remaining lung, where no biting frost ever congests the respiratory organs, where the summer knows no enervating heat, or the winter any intense cold, but glide imperceptibly into each other, wafted in and out by a clear sea breeze—not keen enough to chill the most sensitive, but cool enough to be a grateful fan."

Dr. Brinton writes more like a medical man than the author of the preceding work, and his guide-book contains all the details that a tourist would seek to learn. He cautions travelers against going to Florida too early in the season. The heat is relaxing from May until October. Miasms are to be feared after midsummer, and until frosts occur. The winters are delightful, though no part of the State is entirely free from frosts. The concluding chapters of Brinton's manual are devoted to questions especially interesting to invalids—the climate adapted to their cases, and where it is to be found. For the aged all agree that mild latitudes are to be sought. Ten years may be added to the life of men at the age of sixty, says Dr. Brinton, by relaxation from business and two or three winters in a warm climate. His estimate of the climate of Florida, as one suited to invalids, is high. He quotes army surgeons in proof of its great salubrity.

"The sea coast of south-east Florida," he says, "fulfills the four conditions which make up the best climate for a consumptive. I have other testimony about it well worth presenting. It, too, comes from the same unimpeachable source—the medical statistics of the United States Army. I preface it by a fact of general interest about the whole of Florida. All know how terribly arduous must be campaigning through the swamps and everglades of that State. Yet the yearly mortality from disease of the regular army there, was only twenty-six per thousand men. The average of the army elsewhere was thirty-five per thousand."

As to the character of disease, he says:

"In Arkansas, one man in every sixteen came under the surgeon's hands, each year, with consumption, bronchitis, pleurisy and pneumonia; on the southern frontier of Texas one in sixteen, with one or other of these diseases; at Baton Rouge, one in seventeen; on the western frontier of Texas, one in nineteen; on the west coast of Florida, one in twenty-one; on the east coast of Florida, *one in thirty-nine.*"

The hints to health-seekers which close this little work are excellent, and enhance decidedly the value of this guide-book, which is one that may be recommended in strong terms to all who have thoughts of visiting Florida.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, AT ITS TWENTIETH ANNUAL SESSION, HELD AT ERIE, JUNE, 1869.

Philadelphia: Collins, Printer. Pp. 557. 8-vo.

This is a volume which reflects honor upon the Society from which it emanates. It contains much matter of great interest. The reports of committees are drawn up with singular ability, and show the members of the Society to be working men, with learning and training in their profession, and zeal to promote its highest interests.

The address of the President, Dr. John Curwen, has for its subject Mental Insanity, and is a far more readable production than most inaugural addresses, for the reason that it is thus devoted to a specific subject. It is a sensible and instructive paper, on a subject concerning which it would be difficult to bring out anything new.

The first report is on Intemperance as a disease. Dr. Joseph Parrish is chairman of the committee, and whether the report is from his pen or not, it is a very able one. Intemperance, in the judgment of the committee, is not a disease, and in that opinion we fully concur. Still the habit is one which calls for treatment in institutions for inebriates. The committee reports that from thirty to fifty per cent. of cases of alcoholic intoxication are curable, and that ninety per cent. of opium cases may be cured.

The second report is on the admission of patients into insane asylums, and suggests some wise modifications of the plan which has been in operation in all the asylums of Pennsylvania ever since Dr. Franklin was one of the managers of the Pennsylvania Hospital.

The report on the inspection of drugs is a valuable one. Physicians and patients are alike interested in securing genuine medicines, and we shall be glad if our Pennsylvania brethren can bring about a system by which spurious drugs may be driven out of the market.

The "Training of Nurses" is the subject of a report from the practised pen of Prof. Gross. We confess that it interests us less than any other in the volume. Is it true, as the doctor, we think, somewhat dogmatically asserts, that "mothers, in ninety-nine cases out of a hundred, are totally ignorant of the first principles of nursing, and therefore wholly unfit for the discharge of so sacred a duty?" If it is, and if it is also true, as he affirms, that "good nursing is often in-

comparably more valuable to a sick man than the most skillful medication"—that "it is the right hand of the medical practitioner," we are at a loss to account for the recovery of so many sick people. If "good nursing is half the battle," and bad nursing prevails in ninety-nine cases out of every hundred, it is a wonder to us that the sick are not nearly all killed.

A case of Rupture of the Uterus, reported by Dr. J. McConaughy, follows the report of Prof. Gross.

We like the next report. We accept its conclusions. It is a report on the "Use of Stimulants by the Profession," and the authors condemn, in strong terms, that practice which in late years has become well nigh universal, of prescribing alcoholic stimulants in every variety of diseases. We think the advocates of this wholesale use of stimulants will find it difficult to answer the argument of this admirable report.

Dr. Benj. Lee describes, in the next paper, a new instrument for the treatment of lateral curvature of the spine; and to this succeed the reports of County Societies. These reports are full of interest, having been laboriously prepared. Their authors have studied carefully the medical matters of their several counties, and present to the State Society a body of statistics which will prove of great value to the medical historian. This plan of bringing out the medical topography and medical statistics of the various counties of a State strikes us as worthy of general adoption. A mass of most instructive matter might in this way be accumulated by the Medical Societies of the several States.

A COURSE OF PRACTICAL CHEMISTRY, ARRANGED FOR MEDICAL STUDENTS.

BY WILLIAM ODLING, M. B., F. R. S.

Fellow of the Royal College of Physicians, Lecturer on Chemistry at St. Bartholomew's Hospital. Henry C. Lea: Philadelphia. 1860. Pp. 261. 12-mo.

The object of this work is fully set forth in its title page. But the medical students for whom it was written are not those who are in attendance upon the lectures at the medical colleges. It is not a text book, but a manual for the laboratory, or for the practitioner who wishes to apply chemical science to the solution of problems arising in

his practice; and for these purposes it has been prepared with admirable judgment. It is at once concise and intelligible. With this volume in his hand the physician is prepared to determine what is present in abnormal urine, and to make such an investigation as may satisfy him of the presence or absence of any suspected poison. Every student of medicine should place it in his library, to recall what he may remember but faintly of the chemical course, and more especially to guide him in those investigations which he will have occasion to make after he enters upon practice.

THE MEMBRANA TYMPANI IN HEALTH AND DISEASE—ILLUSTRATED BY TWENTY-FOUR CHROMO-LITHOGRAPHS.

DR. ADAM POLITZER,

Of the University of Vienna. Translated by A. Matthewson, M. D., and H. G. Newton, M. D., Assistant Surgeons of the Brooklyn Eye and Ear Hospital, Members of the American Ophthalmological and Otological Societies. New York: Wm. Wood & Co.

This volume certainly contains all that can possibly be said in reference to the minute organ in question. The author considers all the appearances and conditions, in reference to their diagnostic value especially, and his careful elaborations will be found extremely useful as a guide to the objective diagnosis of aural disease.

The nature of the book is such that a synopsis would afford little profit to the reader; but as a whole, we recommend it to those who desire to be *au fait* on aural science and art. A few practical points may be noticed, however. As a substitute for the more costly artificial ear-drum, a disc of thin vulcanized rubber, with a small wire from the centre an inch or more in length is suggested. Open perforations more than a line in diameter rarely heal. Calcareous deposits in the membrane may exist without impairing the hearing. They are found sometimes in ears supposed to be normal. In chronic inflammations of the middle ear, as an astringent, a solution of sulphate of zinc is preferred, to be used by allowing the external meatus to be filled with it for ten minutes twice a day. When no perforation exists, the blowing of weaker saline solutions, such as chloride of sodium, muriate of ammonia, &c., through the eustachian catheter is recommended. In

acute inflammation of the middle ear, when the pain is excessive and persistent from retention of secretions, the author punctures the membrane with a cataract needle. The relief is speedy, and the perforation soon heal.

The translators are worthy of praise for the able manner in which they have done their work. W. H. R.

A TEXT BOOK OF PRACTICAL MEDICINE, WITH PARTICULAR REFERENCE TO PHYSIOLOGY AND PATHOLOGICAL ANATOMY.

BY DR. FELIX VON NIEMEYER,

Professor of Pathology and Therapeutics, Director of the Medical Clinic of Tubingen. Translated from the seventh German edition by GEO. H. HUMPHREYS, M. D., and CHAS. E. HACKLEY, M. D. New York: D. Appleton & Co. 1869. Two volumes. Pp. 731, 761.

Another work on practice! We doubt not many of our readers will join us in the exclamation, and think of the complete works of Wood and Aitken, the "system" of Reynolds, and the admirable and unequaled compendium of Flint, as sufficient in this line. Yet we have no regrets at the appearance of another candidate for professional favor, but rather find good reasons for giving this new comer a cheerful and hearty welcome. In no part of the world is clinical medicine studied with more ardor, more patience and pains-taking perseverance than in Germany; no where are the effects of remedies being submitted to a more minute scrutiny; nowhere else is elementary pathology undergoing a more thorough re-investigation, and, we may add, passing through a greater revolution. It is well, then, to have a representative of this modern German school in our language, and thus accessible to all. The author is a worthy representative of that school; his reputation as a clinical teacher is among the best of his country, and the fact that this translation is from the seventh edition is sufficient evidence of the estimation of the book and the man at home.

The work is a complete and methodical treatise upon practice. For the information of those who may not have an opportunity to examine it, we will say that it begins with diseases of the throat, passes on to those of the respiratory and digestive organs, and ends with the constitutional diseases. There is to be noted, then, an absence of any introductory treatise upon general pathology, such as prefaces the

works of Wood, Aitken and Bennett. On the other hand, we find several subjects not generally included in works on practice with us, among them we may mention diseases of the uterus, ovaries and vagina, virulent and non-virulent inflammations of the male urethra, with some others.

On taking up this work we turned with especial interest to the chapters upon tubercle and consumption, and we presume most of our readers have read something of the new doctrines of Niemeyer in regard to phthisis, and are interested in his division of the disease into several distinct ones, which are distinguishable always pathologically, and in many instances clinically also. The whole subject of the pathology of tubercle is undergoing a re-examination, a renewed study of it being stimulated by Villemin's discovery, in 1865, of its inoculability, and although much yet remains unknown, although there is far from being harmony among pathologists, this much has certainly been done: the reign of the doctrines of Lænnec has been overthrown—much has been added to our knowledge—and, to speak after the manner of politicians of the day, a "new departure" has been taken for the final attainment of the whole truth.

It is singular how long the doctrines now current have maintained sway—singular, when it is known that in many points they do not harmonize with the observation of the ancients, nor with the accepted doctrines of any other period of medical history before the present century, nor with the results of modern research. Lænnec was the founder of nearly all the received views as to tubercule, and his renown as the founder of physical diagnosis, aided by the influence of Louis, fixed them upon the profession. Yet there were always dissenters, and during the lifetime of the originator of this school, Broussais opposed them, and so did Andral, and we are surprised to find in this work (vol. i, p. 225) Andral termed an "unqualified adherent of Lænnec's," because Andral recognized the origin of phthisis in inflammation, both bronchial and pulmonary, and also in hæmoptisis, all of which were denied by Lænnec, as now—the diathesis being the sole, at least the chief factor in the origin of the disease.*

The more recent school began with Virchow, and the author is one of its chief teachers. The term tubercle is now strictly limited to miliary tubercle; the diffuse, cheesy, yellow matter called "tubercu-

* The student who would master the history of the doctrine of tubercle from Hippocrates down to the present time, should read, "Die Tuberculose, die Lungenschwindsuch und Scrofulose. Nach historischen und experimentellen studien bearbeitet von Dr. L. Waldenburg." Berlin: 1869.

lous," is a product of inflammation, and not tubercle at all. The miliary tubercle may, and frequently does, undergo "caseous degeneration," and is then, also, yellow and cheesy, but it is circumscribed, either miliary, or in larger nodules formed by the aggregation of miliary. This "caseous degeneration" is not peculiar to tubercle, any pathalogical product may pass through it—Virchow has found it in the middle of malignant growths—but the exudations of pneumonia are especially prone to it, and of these are the diffuse, yellow, cheesy deposits in the lungs, called with us "tubercular deposits," and by the softening and breaking down of which cavities are formed, and thus arise by far the greater proportion of cases of consumption.

These, briefly stated, are the doctrines of the modern German school of pathologists and clinical teachers. Their important bearing upon the doctrines current with us, as to the origin, course, treatment and prophylaxis of consumption is seen at a glance; they effect, if substantiated, nothing more nor less than a complete revolution in medical doctrines.

As we desire to give our readers an opportunity of judging as to the merits of the author and the work, we will quote a few paragraphs in relation to some of these points. Speaking of the fact that "modern physicians and clinical teachers only recognize one form of consumption," the tuberculous, he says:

"I have long contested this doctrine, and, upon various occasions, have declared, in direct contradiction to it, that destruction of the pulmonary tissues, the establishment of cavities and consumption of the lung, are much more frequently a result of chronic inflammation than of tubercular deposit." (Vol. i., p. 206.)

Very different is the consumption dependent upon tubercle. This may be, of course, acute or chronic; the former is so similar in its clinical features to typhus that, we are told, the most experienced often err in diagnosis:

"The development and progress of a *tuberculous* consumption differ essentially in type from anything hitherto described, and its symptoms are so characteristic that the diagnosis of this form of consumption (which is not common), is, as a rule, easy. In the first place, it has no precursory catarrh. The fever and wasting are not deferred until the sputa become profuse and purulent, the tubercular eruption being accompanied by a marked elevation of the temperature and rapid emaciation of the body from excessive calorification. If we are informed that the patient did not begin to cough and expectorate until several weeks after he had begun to decline in strength, and to grow pale and thin, there is always reason to fear that he has tuberculous consumption." (P. 237.)

What is the connection between these two pathalogical products, the caseous matter of pneumonia and tubercle? The view is held in Germany that the latter is always *dependent* upon the former, that tubercle is therefore never a primary but always a secondary disease. Niemeyer does not go so far as this, but expresses himself cautiously:

"Although the consolidation and destruction of the pulmonary tissue in consumption is mainly a result of inflammation, yet the frequent co-existence in phthisical lungs of the products of chronic pneumonia and tubercle renders it improbable that the presence of the latter should be purely accidental, and suggests a causative connection between tubercle and the inflammatory lesions. According to the common opinion, this connection is, that tuberculosis is the primary affection to which the pneumonic process is secondary and dependent. It can not be denied that this view is right in certain cases; in a great majority of instances, however, the converse is true; the tuberculosis supervening as a secondary process upon a pre-existing pneumonia. It is, indeed, rare for tubercles to form in a lung which does not contain products of chronic inflammation." (P. 27.)

Now, in regard to the etiology of phthisis there are three points of this creed to be especially noted:

I. The denial of the indispensible necessity of a peculiar diathesis, and the recognition of its indirect inheritance, *i. e.*, of its being caused in the offspring by the existence even of pure debility alone of the parent:

"I regard the wide-spread doctrine that consumption is solely dependent upon a diathesis, from which it proceeds independently of all so-called "exciting causes," as equally gratuitous and dangerous." (P. 214.)

"The tendency to consumption is, in many cases, congenital. When the congenital tendency is due to the fact that the parents were consumptive at the time of begetting the offspring, it may properly be spoken of as inherited. But it is not (as is often asserted) the malady which causes the inheritance, but the weakness and vulnerability of constitution which had already laid the foundation of the consumption in the parents, or which had arisen in them in consequence of that disease. The hereditary constitutional feebleness of the offspring may proceed from other diseases of the parent instead of consumption. Parents afflicted with other exhausting maladies, or who are ruined by debauchery, or who are far advanced in years, are quite as liable as consumptive parents to beget children who come into the world with a predisposition to consumption." (P. 213.)

II. A distinct recognition of the occurrence of hæmoptisis in persons with healthy lungs, and the dependence of consumption upon the hemorrhage:

"Many physicians do not hesitate to accept a brisk hæmoptisis as a sure sign of incipient, or even established tuberculosis, although the patient may present

no symptoms, either subjective or objective, of disease of the lungs, and when, soon after the occurrence of hæmoptisis, signs of consumption have arisen, they confidently assume that the bleeding has been caused by the presence of tubercles, or by the process of its deposit in the lungs.

"I must earnestly protest against this opinion, as altogether unwarranted, and fraught with danger to the patient. * * * * * * * *

"In the very great majority of cases in which the first attack of hæmoptisis has not been preceded by either cough, dyspnœa, or other signs of pulmonary disorder, the lungs are free, and by no means the seat of tubercular deposit, at the commencement of the bleeding." (P. 143.)

Upon this point the author is in harmony with all authorities in medical history down to the beginning of the present century; the doctrine was only departed from under the influence of Lænnec, and is now, by the help of others besides Niemeyer, being re-installed in its ancient sovereignty.

III. The direct origin of phthisis in repeated catarrhs is taught:

"Even a simple, genuine catarrh may extend into the air vesicles in a person of apparently perfect health and vigor. Healthy men should never feel sure that they will not die of an acute or chronic catarrhal pneumonia, proceeding from a cold, and resulting in caseous infiltration and destruction of the pulmonary substance," P. 210.)

"Whenever there is the slightest suspicion of a predisposition to consumption, every catarrh, no matter how slight, is to be treated with the utmost care, which is not to be relaxed until the catarrh is entirely well. * * * Many patients fall a victim to the deeply rooted prejudice that a neglected catarrh never leads to consumption." (P. 241.)

These extracts will suffice to show how our accepted doctrines in regard to tubercle and consumption are assailed, and how sweeping is the revolution proposed.

We must pass on to some other points.

In therapeutics the author will be found more reliable than fertile as to variety of means; more sceptical than over-reliant as to the power of medicines to control morbid processes. The reader will not unfrequently find some of his therapeutic idols overthrown by a rude shock and disposed of with brief ceremony. On the other hand, several remedies not usual with us are frequently prescribed, and we can afford to balance against his scepticism the confidence which we can not fail to feel when such an observer and teacher states a medicine to be efficacious. But whatever doubts he may entertain and express as to the powers of medicines, we speedily become convinced, as we read his pages, that they are neither idle whims nor prejudices, but the direct offspring of clinical experience. In the preface he takes occa-

sion to lay down the principles which should guide us in judging of the action of medicines, and they are the only correct ones, too often overlooked, too often forgotten. Years ago he says he "declared it idle to hope for the time when a medical prescription should be the simple resultant of a computation of known quantities;" he laments the tendency to seek aid from physiology, pathology and chemistry, all of which yield now and then "an ingenious suggestion;" believes the study of the effect of medicines upon animals useless, or at least as far inferior to the one and only mode of studying therapeutics, observation at the bedside. "The empirical method of investigation is the only rational and proper one for the study either of therapeutics, or of any other department of natural science." These, as we said before, are correct principles, this is laying a sure basis, and in urging these views he is in harmony with such renowned and unsurpassed clinical teachers a Trousseau and Graves.

We will begin by illustrating his scepticism, and quote from the treatment of the effusion of pleurisy where, we think, generally, with us, the treatment would be pretty active to promote absorption and free the chest of the water-logged patient:

"Remedies for the promoting of re-absorption of the effusion deserve little reliance. It is, indeed, questionable whether it be possible, by any therapeutic means, to bring about the conditions upon which the absorption of pleuritic effusion depends. If, after the inflammatory symptoms have subsided, the effusion remain undiminished, all medication both external and internal, is to be rejected, and the application of blisters is of very doubtful use. * * * The action of the diuretics, of which bi-tartrate of potash, boracic cream of tartar, and the juniper-berry are the best, is very uncertain, so that we can not promise ourselves much from their use, and the pernicious effects of the drastics upon digestion and assimilation forms a serious objection to their employment. * * * * An attempt may also be made to excite re-absorption by the outward and inward administration of iodine, which has a well-known reputation as an absorbent. I have seen such remarkably rapid absorption take place under the internal use of syr. ferri iodidi in conjunction with the external application of a weak compound solution of iodine upon the affected side of the chest, that I can not help regarding the beneficial action of this prescription as probable, although I do not regard it as proved." (Pp. 272, 273.)

The "antiphlogistics" are not in much favor with him; he is far from being a "bleeder" in the old sense of the term. Neither in pneumonia nor pleurisy does he believe venesection has power to cut short the progress of the disease. The former, indeed, we are told, is markedly "cyclical" in character, a fact not recognized, "owing to

the active manner in which we used formerly to attack the disease, whereby its typical course became deranged:

"Whichever one of the current theories upon inflammation we may adopt, none of them even partially upholds the efficacy of venesection in pneumonia. The fact is, unfortunately, forgotten, that the most intense hyperæmia, by itself, can not occasion croupous inflammation."

"I had rather that any one, dear to me, and sick of pneumonia, were in the hands of a homœopath than in the hands of a physician who thinks that he carries the issue of the malady upon the point of the lancet." (P. 184.)

Yet he does not banish blood-letting from our list of remedies, but advises resort to it sometimes, and especially local bleeding. In this he resembles Bennett, who, while denying its power to control inflammation, yet finds in it a speedy relief for some of the distressing symptoms. Thus in pleurisy:

"At the commencement of an attack of pleurisy, however, I can not sufficiently recommend the use of cold and of blood-letting. * * * When the patient dreads the application of cold compresses, or if the latter do not relieve the pain and dyspnœa in an hour or two, a tolerably large number of leeches, or cut cups should be applied; and if the pain, which is almost always relieved by the depletion, recurs in the course of a day or two, we should not hesitate to repeat the local blood-letting until the relief becomes permanent." (P. 271.)

In pneumonia he would bleed under the following circumstances:

"Whenever the pneumonia has attacked a vigorous and hitherto healthy subject, is of recent occurrence, the temperature being higher than one hundred and five degrees Fahr., and the frequence of the pulse rating at more than one hundred and twenty beats a minute.

"Whenever the great frequence of respiration in the commencement of a pneumonia can not be traced to fever, pain, and [or?] to the extent of the pneumonic processes alone, *as soon as a serous foamy expectoration appears, together with a respiration of forty or fifty breaths a minute*, and when the rattle in the chest does not cease for a while after the patient has coughed.

"The third indication for bleeding arises upon the appearance of symptoms of pressure upon the brain, not headache and delirium, but a state of stupor or transient paralysis." (P. 186.)

We find the author to be no more of a "mercurializer" than bleeder. He does not hesitate to express his doubts as to any "antiphlogistic" power of calomel. He nevertheless uses it, in membraneous croup for instance, and supports his practice with very similar reasoning to Flint. There is high authority in favor of it doing good—the disease is rapid and very generally fatal—we are justified in using remedies which promise even but little where we are wanting in those more reliable.

He is far, however, from denying beneficial effects from the use of calomel; thus in bronchial and intestinal catarrhs of teething children, he says:

"Incomprehensible as the beneficial effect of this drug upon either of these disorders may be, yet experience has affirmed it so fully that we can not have any hesitation in making use of the remedy. We give small doses of from the sixth to the quarter of a grain, three or four times a day." (P. 79.)

He is an advocate of its use in typhoid fever:

"After the accurate observations of Wunderlich, we can scarcely doubt that by this remedy we may, in some few cases, cut short the disease (according to Wunderlich one or two gr. v. doses are enough), and that in the great majority of cases where this remedy is given during the first week, and before the occurrence of much diarrhœa, the course of the disease is rendered milder and shorter. The experience of Pfeiffer's clinic, as well as my own, perfectly agrees with Wunderlich's." (Vol. ii., p. 595.)*

This is undoubtedly a just estimation of mercurials; their power to control inflammation, to promote the secretion of bile more than doubtful—certainly, in the language of the Scotch verdict, made to escape acquittal where conviction is impossible—"not proven"—yet their value in many deranged conditions and diseases established upon the firm basis of clinical observation. We are glad to find, then, in Niemeyer another author whose influence will tend to check the too frequent resort to these valuable but not harmless remedies, and we trust his influence may be potent with those gentlemen who always have their patients upon "small doses of calomel and ipicac," who always talk of "rousing the secretions!" There are some of them left in this section. If any of them are troubled with an "eclectic" rival, let us remind them that the chief corner stone upon which has been built up that school of dissenters, is the *abuse* of mercurials by regular practitioners. The truth may be unwelcome, but it must out

In the treatment of pleurisy we have seen that he recommends cold applications to the chest. This is one of the remedies which will be new to the profession generally here, and a remedy to which we think the laity will have to be "educated" before we can resort to it much! In pneumonia they are one of his chief measures, and are believed to render more essential service than the palliation which generally speedily follows their application:

* The abortive mode of healing typhoid fever by calomel has had many adherents in Germany, and the general treatment by small doses, repeated, for their laxative effect, has the high authority of Lebert in its favor. See Hondbuch der practischen medecin, B. I., s. 163, Tubingen, 1863; and *Amer. Jour. of Med. Sciences*, July, 1864. P. 183.

"I have made extensive employment of cold in the treatment of pneumonia, and, relying upon a large number of very favorable results, can recommend this procedure. In all cases I cover the chest of the patient, and the affected side in particular, with cloths which have been dipped in cold water and well wrung out. The compresses must be repeated every five minutes. Unpleasant as this procedure is in almost all cases, yet even after a few hours the patients assure me that they feel a material relief. The pain, the dyspnœa, and often the frequency of the pulse, are reduced. Sometimes the temperature goes down an entire degree. * * * *

"In the hospital at Prague every pneumonia is treated with cold compresses, and, according to the statements of Smoler, it is exceptional for a patient not to feel material relief from this treatment." (Vol. i., p. 185.)

We are, then, "advancing backwards" to use a Hibernianism, towards the teachings of Currie. But we do not speak in jest; the use of water as a remedy has been neglected by us almost to the extent of founding a school based on its exclusive use, and we hope to see a revival of its reputation. There is high authority, and abundant clinical evidence in favor of the value of cold water and ice in the treatment of visceral inflammations.*

We will add one more quotation, favorable to the use of a remedy that we may not convey the impression that our author is altogether a sceptic. Digitalis is a medicine in great favor with him; in fevers and inflammations it reduces the temperature and the pulse without lowering the strength of the patient. In the following, from the article on Dilatation of the Heart, it will be seen that he fully commits himself upon the disputed question as to the medicine being a cardiac tonic:

"Prepossessed by the doctrine of Traube regarding the effect of digitalis upon the contractile force of the heart, and the tension of the aortic system, I formerly regarded the use of this remedy in dilatation of the heart as unnecessary, and even dangerous. Of late years I have convinced myself, from a great number of observations, that digitalis is a very efficient means of temporarily strengthening the heart's contractile powers, and of thus allaying cyanosis and dropsy. In dilatation of the heart, digitalis, when combined with an exclusively milk diet, is an invaluable remedy. I have repeatedly succeeded in obtaining complete removal of dropsical effusions of great magnitude, and produced considerable temporary relief by this mode of treatment." (P. 325.)

We can not continue our quotations, or extend our remarks; yet there are so many interesting and important points marked for no-

*See, for instance, Lectures on the Diagnosis and Treatment of Functional Nervous Affections, by Brown-Sequard, p. 50, where the "marked benefit" obtained by Michaelis, Helm and Kiwisch, in "inflammation of the viscera or serous membranes of the chest and abdomen," is alluded to.

tice, that we find it as difficult to break off as we do to express an opinion of the merits of the work without laying ourselves open to the charge of exaggeration. Without drawing any invidious comparisons with other works of our own or foreign countries, we may say that it is a most excellent and valuable treatise, bearing upon its pages the marks of close observation, great clinical study, sound reasoning and good judgment. If the author now and then destroys our confidence in a favorite medicine, he strengthens it in many others—if he demolishes favorite theories, it is by showing that they are inconsistent with the facts gained by recent progress—and if he often confesses the powerlessness of our art, we can not help feeling that in whatever there is to do, he is a safe guide and sound counselor.

We must add that the translation is exceedingly well done; there is an entire absence of awkward sentences, and of that obscurity of the author's meaning so often seen in translations, and which arise from too close a verbal rendering of the text. The publishers' work has been done, too, in excellent style. J. C. R.

CORRESPONDENCE.

NEW YORK CITY, OCTOBER 16, 1869.

DEAR JOURNAL: In the course of time, the medical lecturing season has again come round, and at the various schools the bustle and excitement plainly indicate the commencement of a new campaign. The old war-horses are buckling on their armor, and those who, this season, make their *début* upon the lecturing stage, await with high hope and eager desire, although with palpitating hearts, the signal for the strife. The city is full of students. Each year, our great metropolis is deservedly increasing in popularity with those who contemplate the study of the healing art, and our colleges were never in a more flourishing condition.

Our advantages for clinical instruction, and for practical study at the bedside of the sick—the only true way of making a thorough physician—are unsurpassed by any city in the world; and these advantages are constantly on the increase, by the erection of new hospitals, asylum and dispensaries. And thus a double good is effected, new

homes for the relief of the suffering and the afflicted are secured, and the medical student has opened to him new ways and broader opportunities for increasing his amount of practical information and useful knowledge.

A new Eye and Ear Infirmary is about to be opened at No. 233 East Thirty-fourth street, between Second and Third avenues, and is to be called "The Manhattan Eye and Ear Hospital." A hospital building is to be erected at some future day. The directors of the institution comprise some of our most distinguished business and medical men. There have been elected as surgeons to the hospital, Drs. Agnew, ——— and Roosa. This is an institution that has long been needed in the upper part of the city, and will, without doubt, enjoy a great popularity, and prove to many an inestimable blessing.

Of the new hospitals, the *Medical Gazette* says:

"On the 13th of September, 1866, the corner-stone of the new German Hospital, which is located on the plat of ground bounded by Seventy-sixth and Seventy-seventh streets, and Fourth and Lexington avenues, was laid by Mayor Gunther. The erection of the building has proceeded slowly, owing to the want of funds, and even at present but one of the two pavillions of which the hospital is to consist, has been completed. Although the establishment is known as the German Hospital, the subscription list bears the names of many of our native-born citizens, and it is intended that persons of all countries, colors, creeds and conditions shall be received there, so far as the capacities of the building will permit

"*The Roosevelt Hospital.* Ground was broken a few days ago for the erection of the Roosevelt Hospital. The location chosen is the block bounded by Fifty-eighth and Fifty-ninth streets, and Ninth and Tenth avenues. It will be remembered that the late Mr. Roosevelt left the sum of one million dollars to found and maintain a hospital in this city. The work of designing a suitable building has been entrusted to Mr. Carl Pfeiffer, the well-known architect. It is probable that the corner-stone will be laid at the end of next month.

"*The New York Hospital.* The managers and the trustees of the New York Hospital have purchased a plat of ground at the corner of Twenty-ninth street and Ninth avenue, on which a building will be erected covering a space one hundred feet square. It will be used as an adjunct to the principal building at Bloomingdale. Excavations have been commenced, and the architect, Mr. Carl Pfeiffer, is engaged in preparing the plans."

The corner-stone of a new hospital, St. Michael's Hospital, has recently been laid in the neighboring city of Newark, New Jersey, and the erection of the building is now in active operation. It is to cost forty thousand dollars: will be of red brick, with trimmings of brown stone, and three stories in height. There will be accommoda-

tions for one hundred and fifty patients, the wards being twenty-two in number. The dimensions of the building will be ninety-six by forty-eight feet, and a rear extension twenty-four by forty-two feet, for the chapel.

On Monday, October 4th, the regular course of lectures commenced at the College of Physicians and Surgeons. The introductory address was delivered by Professor McLean, and was listened to with marked interest by a large audience.

The University Medical College is now comfortably settled in their new quarters on Twenty-sixth street, opposite Bellevue Hospital, and all things are now moving onwards prosperously. Students are flowing in: new blood and youthful zeal have been admitted to lecturing corps: and everything indicates renewed life and activity. The University will gain immensely by its change of base. The introductory lecture to the ensuing winter course will be delivered next Monday night, by Professor Draper.

Bellevue Hospital Medical College, and the Female Medical School, are also once more in active operation.

The New York College of Pharmacy, that most important institution, convened its fortieth annual course of lectures in the University building, on the 4th. The lectures on chemistry are delivered on Wednesday and Friday evenings, by Professor C. F. Chandler: on materia medica and botany, on Monday and Friday evenings, by Professor ———, and the lectures on Pharmacy on Monday evenings, at eight o'clock, by Dr. Edward R. Squibb.

During the term, the second-course students have abundant opportunities afforded them of witnessing many of the operations spoken of by the lecturers, conducted at the various manufacturing establishments, on an extensive scale.

Yours very respectfully,

JAMES B. BURNETT, M. D.

MISCELLANY.

ON THE PATHOGENESIS AND TREATMENT OF STERILITY IN THE HUMAN FEMALE.

BY WM. C. ROGERS, M. D., OF NEW YORK.

Concluded from the October Number.

Sometimes, on the same day, one bougie, after remaining in a little while, may be withdrawn, and a larger one passed, but not often. Strictures of the os internum uteri, like strictures of the urethra in the male, are irritable and capricious, and must either be coaxed or taken when in good humor.

If it is going in, the bougie must pass in quickly, almost precipitately. I think I understood Dr. Kammerer to say that he also made use of steel bougies of graduated sizes. All I have to say about this is, that safe as these may be in skillful hands, and successful—they have not been so in mine—they cause pain, and, I think, excite irritation and spasmodic contraction in the upper os, which makes it difficult to pass them through it; and if pushed in forcibly, might, I should think, do mischief. I can conceive of cases in which it might be necessary to incise the outer os, or to dilate the cavity of the neck with sponge or laminaria, in order to introduce the bougie; but when a hysterotome of any kind, a sponge-tent or slip of laminaria can pass, a slender-pointed, flexible, gum-elastic bougie, I should think, could be passed also, and with time and patience effect the object. Try to learn the course of the stricture, pass in the bougie in it, firmly and quickly, through the os, *au fond*. If it means to go, it will then, and may be retained for a longer or shorter time. I believe it would be well to leave it in for some hours. If you do not succeed after a short trial suspend the operation till a later day. If the stricture is, or becomes irritable, the more you try, the less likely you are to succeed. Success is either null or immediate. When complete dilatation has been obtained with a bougie of large size, the passage of it becomes easy, but it must be repeated at intervals; after menstruation; perhaps best in the true inter-menstrual period (ten or fourteen days after), for if the women should happen to have conceived, abortion would almost inevitable follow the introduction of the bougie into the uterine cavity. The bougie should be new, firm, and not too flexible, or it will double up and not pass. Bougies that have been used a few times are liable to this objection. If, after withdrawing the bougie, a laminaria tent could be introduced, and left *à démeure* some days, it

would be well; but it is not easy or always possible, and the bougie alone must be depended upon.

All these operations have for their object the facilitation of the menses and removal of dysmenorrhœa, and the allowing of an easier and freer entrance to the spermatozoa. But beyond this is the aid afforded to methods intended to effect the change in the uterine secretions necessary to insure the vitality of the spermatozoa. If this can not be done, our researches and conclusions upon this point in the pathology of sterility will be of no avail. It is to be effected, as far as I know, by cauterization, chiefly with nitrate of silver, introduced in the solid form, or by injection, into the cavity of the neck and uterus; although other substances are employed. Dr. Sims' pamphlet is unfortunately silent on this point. Courty ranks among curable causes of sterility, simple or complicated imperforation, congenital or accidental narrowness of the uterine orifices, the frequent cause of mechanical dysmenorrhœa; and says, by dilatation and double incision of the neck, he has obtained unquestionable cures of more than fifteen sterile women, whose fecundation followed the treatment in from three to five months. Flexions, when very decided, are causes of sterility, and uncurable when held down by adhesions; and he does not partake of the opinion of Mr. Joulin, on the small importance of deviations of the uterus as causes of sterility. He thinks that the glans penis should, at the moment of ejaculation, be opposite to the meatus uterinus; and that even a temporary restoration to the natural position (p. 1008) suffices sometimes for fecundation; and that after this, and after dilatation even, no time should be lost in attempting fecundation, and that certain positions of the *female in coitus* are preferable in some cases to others. Hypertrophy even of one lip, and conicity of the neck, congestion, inflammation, granulations and fungosities, are all obstacles to fecundation. This appears to be also the opinion of Kammerer, of C. Mayer of Berlin (1856), whom he cites in his paper.

In Dr. K.'s patients, retroversion (twenty), anteversion (eighteen), anteflexion (eighty-three), retroflexion (seventy-one), hypertrophy (sixty-five), small os (twenty-four), stricture of internal os (thirty-five) were the commonest lesions, and seven-eighths of the whole number were affected with some form or other of uterine catarrh. If the views which I have herein presented, relative to the occasional and frequent destructiveness of the accompanying secretions to the spermatozoa be correct, some of the sterility in them may be fairly, I think, attributed to it, and some of the successes to the means employed for its removal. Courty thinks that very abundant leucorrhœal secretion may expel the semen from the uterine cavity, when it has once entered, and the very viscid, tenacious mucus which plugs the os oppose its entrance.* Vaginal, he thinks less injurious than uterine mucus, the latter of which may have a very injurious inflence upon the relatively very small quantity of sperm which enters the uterine cavity (1012). He adds: In a great number of cases the great abun-

* Sometimes the semen is all instantly thrown off by the vagina, by too soon rising after coitus. (Sims 12).

dance of the leucorrhœa, and even its purulence, does not prevent fecundation.

Courty differs from Joulin as to the effect of a want of orgasm on the part of the female. He thinks it may occur without being felt or expressed, that it is capable of development and education, and hence fecundation seldom occurs until after some months (twelve, eighteen, twenty-four and thirty-six) of married life; again, in some cases of sterility, coinciding with perfect general health of the genitals, and only attributable to absolute defect of orgasm, even in women very desirous of becoming mothers; or awaking, together with fecundity, after a lapse of years, and thence pursuing the natural course of its evolution; a new lover, or husband perhaps, determining the result. But it is equally certain that many entirely cold and passive women are extremely fecund. Sterility on the other hand, may depend upon a totally opposite condition. Menorrhagia (a precocious abortus), or inter-menstrual menstruation, by its tendency to reproduce itself when the ovum is recently fecundated, becomes an obstacle to gestation. The number of causes, single or allied, upon which sterility may depend, should certainly render us sober of promise to women in whom it is only relative, and affords hope of recovery; while the very frequent realization of that hope, under well-directed treatment, should warrant a patient and continued effort on the part of both patient and physician.

Among the chief means of correcting the morbid conditions of the uterine mucus membrane upon which noxious secretions may depend, may be said to be cauterizations of the mucous membrane of the neck and cavity, and certain intra-uterine injections. The caustic most commonly in use is nitrate of silver, used externally to ulcerations and abrasions of the neck, and internally applied to the mucous membrane of the neck and cavity, to repress granulations and fungosities, to diminish hypersecretion, and by modifying the morbid condition of the glands which produce leucorrhœa, change the character of the secretion itself into one less injurious to the vitality of the spermatozoa. Upon this subject M. Courty says: "The cauterization may be performed, after dilatation, with a camel's hair brush, but as this is an unenergetic method, the idea has arisen to introduce the solid nitrate and apply it directly over the surface."

Various porte-caustics have been devised for this purpose, intended to secure the caustic from being broken off within the cavity. "But," says M. C., "having myself met with the accident and satisfied myself not only of its harmlessness, but of its happy results, I fix a piece of solid nitrate of silver, of suitable length, in an ordinary platinum porte-nitrate with a long handle; place the patient in supination; introduce a wooden speculum; examine very gently with a sound the direction of the utero-cervical canal, and immediately after carry the crayon of nitrate of silver even into the uterine cavity." This is easily said, but is it quite as easy to do? M. C. continues: "Instead of endeavoring to withdraw it intact, I use, on the contrary, all my endeavors to precipitate it, to break it off, which is not very easy to do, and I abandon

it in this cavity (p. 265). The vagina is then tamponed with a cloth, wetted in a solution of salt in water, sustained by a second one, and the speculum withdrawn." "I can say," he adds, "that I do not know any more heroic means than this *little* operation, which it is not often necessary to repeat, in the treatment of obstinate leucorrhœa. I have not observed serious accidents to follow it. Once only I saw atrocious pains, not yielding to baths, antispasmodics nor narcotics." The neck having swelled, and the os being occluded, he incised it some hours afterwards, to facilitate the expulsion of the mucus and caustic itself. In all the other cases, the pains, "even very strong in a small number of women," have always yielded, however violent, to general and local antispasmodics, and to cool hip-baths, with continuous vaginal irrigations, prolonged if necessary for some hours.

Those of my readers who may feel disposed to adopt this heroic and comparatively innocious and "incomparable" little remedy, 619, will do well to consult M. Courty's Traité Prat., &c., Paris, 1866, p. 264 and 7, 618. It is to be employed only, be it remembered, when the passages are freely pervious, and there exists neither metritis, perimetritis, ovaritis, flexion, deviation, stricture, nor constriction of orifices.

M. Courty is not in favor of intra-uterine injections. He says that they are the most dangerous that can be employed, and has seen them instantly followed by very formidable accidents, to say nothing of the possibility of their passing through the tubes into the peritoneal cavity and giving rise to fatal peritonitis. M. C. uses no other fluid than pure water, and even then only where there exists a perfect facility for the escape of the injected fluids.

Dr. James Kammerer, of this city, whose paper on Uterine Catarrh, reprinted from the *American Journal of Obstetrics*, vol. ii., No. 2, August, 1869, I have just been favored with, is a warm advocate, on the other hand, in their behalf, and uses them constantly with safety and success. When catarrh is accompanied with true angular anteflexion, the posterior lip of the uterus must be incised by Emmet's operation, to straighten the canal and provide for a free exit for the catarrhal secretion; and extreme smallness of the external os requires a bilateral incision. The patient being placed in a recumbent position, a sound is introduced into the uterus, and the depth, capacity of the cavity and the mobility of the organ accurately measured and ascertained. A cylindrical speculum is then introduced into the vagina. In order that an entire permeability of the cervico-uterine canal shall exist before the injection is attempted, Dr. K. is careful to dilate it by means of a series of sounds, four in number, of varying sizes, made of copper or German silver, of which exact figures are given on pp. 14 and 15 of the pamphlet alluded to. These are successively introduced through the speculum, until full dilatation of the canal is obtained; after which injection and escape of the injected liquids are easy and safe. After washing out the cavity of the uterus with a long-nozzled india-rubber bag syringe, the appropriate remedy, in liquid form, is injected. These are chromic acid, Lugol's solution of iodine,

dilute or concentrated, and carbolic acid diluted, and also sulph. zinci, ten grains to the ounce. Of carbolic acid as an intra-uterine injection, I find no notice in the three French works I have consulted, Joulin, Courty and Becqurel, and do not know with whom it originated.

Dr. Squibb, in a recent pamphlet, speaks of it as a mild local anæsthetic, useful in cystitis and leucorrhœa, and says that its use has often been favorably noticed in the foreign journals. Weak solutions of these dilute substances may be freely injected, raised to a certain temperature, not cold; but of the concentrated, ten to twenty drops is the most that can be safely injected, the dilute being in ordinary cases the most prudent. Caution and skill are necessary; for Dr. K. himself allows (p 23) that accidents may occur occasionally, notwithstanding the most careful observance of the rules he has laid down (p. 12). Dr. K. observes that he has often cured patients of their catarrh, as well as their sterile condition; but the peculiar morbid action of the secretions upon the spermatozoa, to which in this paper, I have endeavored to direct attention, is not, so far as I have observed, alluded to. Dr. K. remarks that a new cause of sterility, hitherto little attended to, may be a destruction of ciliary uterine epithelium from the too powerful application of escharotics. The direction of the cilia, however, is from, and not toward the uterine cavity. There can be no doubt of the safety and efficacy of intra-uterine injections in Dr. K.'s experienced hands, and many cases are cured by it no doubt, which would resist any other mode of treatment. Dr. K. looks upon uterine catarrh as the most frequent cause of sterility in the female, having met with it in three hundred and forty-two cases out of four hundred and eight, but without assigning any reason.

The womb, in the present state of therapeutics, must be looked upon as a meek and long-suffering organ, which endures with wonderful patience the rough handling, the burnings, slashings, pokings and scrapings it receives at the hands of the gynæ-atrics. Still gentleness and caution are necessary; for it does not *always* submit to them without resistance, remonstrance, or recalcitration.

If these remarks shall conduce to a better study and understanding of the causes of sterility, and a more successful treatment for its removal, my object in writing them will be happily attained. The action of the vagino-uterine secretions upon the spermatozoa, will soon, I have no doubt, become an interesting and important specialty, and I trust, will receive speedy and due attention.—*Medical Record, Sept. 15, 1869.*

EDITORIAL AND MEDICAL NEWS.

THE LIFE of a true physician is that of a student. To keep pace with the wonderful progress of Medicine, both as science and art, in these modern days, requires both a disciplined and industrious mind. Nor is it sufficient merely to be a receptacle of the treasures of other minds—to possess information, however large; these treasures must be digested and assimilated, in order that such knowledge may become a power for the great end of the physician's life—*the cure of disease*. Some fail in the acquisition of knowledge; they neglect study of books and journals, and their libraries remain meagre as they were ten, twenty or thirty years ago when they first received or assumed the title of doctors, while in practice they are dull routinists, and the activity of their minds is expended in cunning devices to get patients, in courting popular favor, all things to all men, shaking hands with Tom, Dick and Harry, like some petty aspirant for a constableship, in sharp trades or in the debasing pursuits of local politics. Let such men reconcile this conduct with the high responsibilities of their vocation and with their best usefulness and happiness as they can.

There are still others who, while diligent in the acquisition of that knowledge with which the press teems, do not properly weigh, compare, discriminate and judge—have simply information, which they use in a hap-hazard, hit-or-miss sort of a way. The physician ought to be a *ruminating* animal. Many an hour of lonely riding, many an hour of weary watching in the home of a tedious but healthy parturient, could bring rich profit to a mind stored with knowledge from various authors—that observes where views harmonize, where they differ—discriminates between the true and false, and, finally, by a process of *mental composition*, builds up as complete a structure as possible of some particular disease and its therapeutics; and the hours thus occupied would be rescued, many a time, from absolute loss, and sometimes even from worse than loss, for there are thoughts, dreamy and unsubstantial, floating through the idle mind that are like the "drowsy syrups of the East," and "medicine" it to passionless and powerless slumber,

while other thoughts may debase and degrade, corrupt and kill the moral nature.

The complete man, the physician of symmetrical mental development, will not only acquire but appropriate—will not only read and observe, but also reflect. Reflection will fructify acquisition.

There is one department of professional knowledge which almost all physicians too much neglect. In the richness of the present we are all prone to neglect the treasures of the past. We remember a sentence from Cicero, found in one of Dr. Tilt's volumes, which is pregnant with force: *Nescire quod antequam natus esses factum sit, id semper esse puer.* Without enlarging upon this topic, we wish, in concluding, to enforce it by a quotation from Charles Bell's History of Surgery, a quotation which we find appositely introduced in an Introductory Address recently delivered by Mr. Sampson Gamgee, at the Queen's Hospital School, Birmingham: "We learn that art improves slowly, and by degrees scarcely perceptible in an age, and that what one man is able to do or accomplish is as nothing when compared with that accumulated knowledge which has descended from our predecessors. It is not merely in diminishing the resources of professional skill that this disregard of study is to be deplored. The neglect of the literature of the profession deprives the student of all enthusiasm and love for it; he is brought up deficient in liberal views, and is taught to overrate the importance of the person under whom he has been educated, and to content himself to walk in the trammels of his particular practice. Those who are ignorant of the history of the art, and not aware of the observations and discoveries of the great men who have preceded them, are in continuous danger, in striving after new inventions, of only restoring what has been discovered, tried and rejected before their time."

THE DOCTORS OF HERAT, IN AFGHANISTAN.—General Ferrier says as in their eyes every European is a doctor, their conversation never ceased running on the healing art, of which they considered themselves distinguished professors. They often brought with them their drugs, in order that I might tell them how to use some chemicals which they had received from India. They gave these chemicals in progressive doses, in all obstinate cases, until they found out the right dose, and in what disease to use them. Finally, one of them, Mirza Aska, pulled a bottle of cyanuret of mercury from his pocket, and requested to know what devil of a salt that could be. "It has been of little or no use to me," he added, "for of over one hundred patients that I have given it to, all died but one."—*Caravan Journeys*

DR. N. PINKNEY, one of the delegates to the British Medical Association from the American, and also a representative of the Medical Department of the Navy, was, like our friend, Dr. Hibberd, a few days too late in his arrival at Leeds for the meeting. He addressed a letter to Dr. Chadwick, the President of the British Association, expressing his regret at the mistake as to time, full of fraternal feeling, eulogistic of some famous names in our own country and in Great Britain, and not lacking in rhetorical flights eminently characteristic of the author: the letter is too long for us to republish. Dr. Chadwick writes the following handsome letter in reply:

LEEDS, AUGUST 8, 1869.

"MY DEAR SIR: I hasten to acknowledge the receipt of your very interesting letter, and, on behalf of the Association, over which I have the honor to preside, express to you our regret that, by an accident, you should have arrived too late, exactly to fulfill your important mission.

"That such a mission was about to honor us was, in some way or other, known to our recent meeting, and its arrival was anticipated with lively satisfaction.

"Had you been present, you would have found that the signal and unexpected honor conferred on our Association by the graceful recognition of the United States Government, of which you were the bearer, would have been duly estimated; and, in the cordiality of your own personal reception, you would have discovered how thoroughly we in England reciprocate those sentiments of patriotism and good will, to which you so eloqently give utterance. You would likewise have found that your numerous pioneers, in the improvement of medical science and art, are well known here, and their labors duly estimated. I abstain from naming them individually—even that of our illustrious visitor to the Oxford meeting, whose presence there gave additional brilliancy to that altogether remarkable gathering—lest I should, by unintentional omission, do injustice to many others equally deserving mention, hundreds of whom adorn the American profession. Had you arrived in Leeds in time for the meeting you would have discovered that, whether on this or on that side of the Atlantic, or in any other country, the ardent cultivator of medical science is, without envy and without jealousy, duly honored by us, and that the only warfare we recognize as justifiable between our kindred races is that bloodless encounter, the result of which secures the advancement of our common profession, and the more perfect alleviation of the ills of suffering humanity.

"I shall not fail to inform, through the medium of our *Journal*, not only the five hundred members who were present at the Leeds meeting, but our four thousand Associates, and through them the entire profession of Great Britain, of the honor done them by the Government of the United States, and by the President of the American Association.

"It is fully intended that delegates shall attend, on our behalf, the next meeting of your Association in America. They will be charged to acknowledge,

as opportunity may serve, the condescension of the United States Government, and the cordial good will of the American profession, as evidenced in your mission here; and they will likewise express our entire sympathy in those sentiments of which you have proved yourself so able an exponent; and thus, by the interchange of these kindly courtesies, we shall draw closer those bonds of amity and good feeling which should ever animate the members of a common calling.

"I have the honor to remain, your very faithful and obedient servant,

"CHARLES CHADWICK.

"To Ninian Pinkney, Esq., Surgeon United States Navy, etc."

REDUCTION OF DISLOCATIONS BY MANIPULATION.—The following extract from the *Address in Surgery*, British Medical Association, by Mr. Nunneley, will be read with interest, especially by those members of the Indiana State Medical Society who heard at its last meeting the discussion upon reduction of dislocation of the head of the femur, and they will remember a most absurd implied statement made by one of the speakers, which here meets with its contradiction:

"In the whole round of surgery, I know of nothing more perfect than the reduction of a dislocated limb by manipulation, as it has been not inaptly called. To those who have only seen a dislocated hip, for instance, replaced by the common method of extension and counter-extension with pulleys, and for the first time witness a few painless and comparatively gentle movements made with the dislocated thigh by the unassisted surgeon, the process very likely not occupying a minute, and find the limb restored to its normal condition, the proceeding must appear almost like magic. To Dr. Reed, of Rochester, U. S., we are, I believe, indebted for first directing attention to this plan, which he pointed out as applicable to two of the four varieties of hip-joint dislocation. The method is, however, capable of a far more extended application than Dr. Reed appears to have been aware of. In our Infirmary, we have reduced not only every form of dislocation the hip is liable to, but those of the shoulder also. I have practiced it in a man seventy-three years old, and I have assisted my colleague, Mr. T. P. Teale, to do so in a child of only two years. My own cases of success number upwards of twenty, and each of my colleagues has had several. Many cases have been reported by Mr. Birkett in Guy's; Mr. Hutchinson in the London Hospital; and by other surgeons in hospital and private practice, so that the general value of the method may be regarded as fairly established. I may mention that its successful performance mainly depends upon attention to two things—1, our anatomical knowledge, enabling us to place the bones and muscles in the most advantageous position; and, 2, on bringing the muscles into a proper condition, in which they shall have neither too much nor too little power of action, for either state will prevent success. If their action be too great, their resistance can not be overcome; on the other hand, if it be entirely suspended, the head of the bone will not be drawn into or maintained in its natural cavity. Hence the anæsthetic should only be carried far enough to suspend volition and

spasmodic action, leaving some little power of perception and contraction. When in this semi-passive condition, the limb should be firmly seized, put into gentle rotary motion in such a direction as our knowledge of the attachment of its muscles tells us, when they act, will cause them to draw the head of the bone towards its socket, and then, by a sudden and more forcible action, they are roused into quick contraction, by which the bone is partly pulled into its socket. To every dislocation of the ball and socket-joints, this simple method is applicable; to the hinge-joints, it is not equally so."

SPINA BIFIDA; INJECTION OF IODINE; RECOVERY.—The rule is that these cases die. M. Roux, of Meximieux (France), has recently published in the *Bulletin de Thérapeutique* the case of a girl six weeks old, presenting this deformity. The tumor hung from the extremity of the sacrum to the lower third of both thighs. The author first made an exploratory puncture, and removed about an ounce of limpid fluid. He tried, then, the following plan: An assistant was desired to hold the tumor in such a manner as to occlude the opening into the spinal canal; the operator then injected an ounce of the following solution: Distilled water, eleven drachms; tincture of iodine, three drachms and iodide of potassium, one hundred and eighty grains. The liquid was left five minutes in the sac, the latter being kneaded with the hand of the operator. The solution was then withdrawn to the last drop by the exhausting agency of the syringe. This proceeding succeeded so well that, in a fortnight, there was only a hard nucleus left, no larger than a walnut. M. Roux attributes his success to the occlusion of the canal, and to the withdrawal of the very last drop of the injected fluid.—*Medical Press and Circular.*

DR. KRAUS, the Editor of the *Allgemein Wiener Medizinische Zeitung*, against whom an action was brought a short time ago by Dr. Billroth, for having erroneously attributed to him (Dr. Billroth) the leaving of a piece of sponge in the abdomen of a patient after ovariotomy, has been sentenced to pay a fine of one hundred florins, or to undergo twenty days' imprisonment, with costs.—*British Medical Journal.*

TREATMENT OF MALIGNANT PUSTULE.—Dr. Caspar of Stassfurth asserts, in the *Deutsche Klinik*, that he has treated several hundred cases of malignant pustule successfully by strong solution of ammonia; and that all the patients recovered except one—a pregnant woman, whose stomach rejected everything. The dose for children was one, two, or three drops; and for adults four drops, given every hour, day and night, in sweetened barley-water. The treatment, he says, must be continued until the inflammation ceases to spread round the pustule. The local application of solution of chlorine is of little or no value.—*British Medical Journal.*

THE ANÆSTHETIC ACTION OF CHLORAL.—At the first meeting of the Physiological Section of the British Association in Exeter, Dr.

Richardson was requested by the President, Mr. Busk, to undertake the investigation of chloral, proposed as an anæsthetic by Dr. Oscar Liebreich, of Berlin, during the present year. An important series of experiments upon animals and birds was accordingly carried out in the laboratory of the Devon and Exeter Hospital, by Dr. Richardson, with the able assistance of Dr. Shapter, Dr. Kelburn King of Hull, and the house-surgeon and pupils of the hospital. Chloral was discovered by Liebig, in 1832, and afterwards was investigated by Dumas. It is made by acting on alcohol with dry chlorine gas. It is a colorless volatile liquid, of specific gravity 1.502; and boils at two hundred and two deg. Fahrenheit. Its vapor has a pungent odor. When choral comes into contact with water it turns into a white crystalline solid substance—hydrate of chloral—which is the substance Dr. Richardson subjected to experiment. When this substance is treated with an alkali, it is decomposed into chloroform and into formiate of the base. Liebreich speculated that, if the hydrate of chloral were introduced into a living body, chloroform would be gradually liberated under the influenec of the alkali of the blood, and that sleep would follow as from chloroform, but for a longer time. Liebreich made many experiments in regard to this, putting animals and even human beings to sleep for long periods: in one case a dose of forty-five grains produced sleep in a man for sixteen hours. Dr. Richardson, in his researches, first tested whether chloroform is given off when the hydrate of chloral is mixed with blood, and proved it was so by distilling over the liberated chloroform from the blood. He next made a standard solution, which consisted of one part of chloral to two of water. Afterwards he put Leibreich's experiments to the test, and then made his own series of special investigations. The results of his researches were, that chloral was decomposed in the living body, as Liebreich affirms. It gives off chloroform, and it forms a formiate of soda with the blood. The chloroform thus liberated produces sleep, which is in every sense the same as the sleep from chloroform itself. The substance can be given either by the mouth or by subcutaneous injection. Two parts of hydrate of chloral are equivalent in physiological value to seven of chloroform; the sleep it produces may be made to extend over four and even five hours; but vomiting is frequently produced previously to sleep, and there is only a brief period of actual insensibility, the body being, if anything, hypersensitive to touch and pain, even during the stupor. With great care in regulating the dose, recovery may be pretty certainly insured, but death is very liable to be induced by slight excess of the quantity administered. Death takes place by the continuation of sleep with rapidly falling temperature of body. Having discovered the physiological value of hydrate of chloral in comparison with the like application of pure chloroform, Dr. Richardson next investigated the relative dangers and advantages of these two anæsthetic agents. He further compared the hydrate of chloral with bychloride of methylene, tetrachloride of carbon, and chloride of amyl, and came to the conclusion that all the effects of the hydrate of chloral could be obtained by those other

agents simply, and with greater safety. While, therefore, he recognized that Liebreich has brought out a very valuable physiological truth—that the animal body is capable of decomposing some chemical compounds, and that the symptoms in the animal may be due to the formation of secondary products—he did not think that the hydrate of chloral would practically supersede opium, chloroform, and similar narcotizing agents now in medical use. On the contrary, he believed that the decomposition of blood which it induces by the formation of formiate of soda is detrimental.—*British Medical Journal.*

HYDRATE OF CHLORAL.—Dr. J. W. Ogle has been giving a trial to this new remedy in several cases. It has proved most useful and satisfactory in its action as a hypnotic in small doses—viz., doses varying from five to ten grains. In a slight attack of delirium tremens, twenty grains acted very sufficiently and well in procuring sleep. In one case only did any unpleasantness attend its administration, and that was when peculiar sensations about the head were complaineed of by a woman suffering from chronic peritonitis, who took five grains. On the following night four grains were given along with a few drops of chloric ether, and no such unpleasant results followed.—*Lancet, October 16th.*

EXPERIMENTS ON THE PANCREATIC JUICE.—In the Academy of Sciences of Paris M. Chauvin and M. Morat have recently read a paper "On the Pancreatic Juice," and the conclusions at which they have arrived are—first, that the general results of their experiments on artificial digestion with this fluid agree with those made by older experimenters, from Eberle to Claude Bernard. Secondly, that in such experiments with artificial digestion the action of the pancreatic juice is not checked by the presence of gastric juice, nor by hydrochloric acid considerably diluted with water. Thirdly, that at ordinary temperatures, and in inert vessels, the juice does not act so energetically as when maintained at the temperature of the body, and under the influence of the movements of the digestive fluid. Fourthly, in the digestion that ordinarily takes place in the stomach—and this is a capital point—the pancreatic juice preserves its energies intact, notwithstanding the presence of the gastric juice, and may initiate in the interior of the stomach a complete digestion of the three species of alimentary substances. And, lastly, they state that in a clinical point of view they have obtained remarkable results with the aid of pancreatic juice and extract.—*Lancet, October 16th.*

MARRIED—Wednesday evening, October 13th, 1869, at the residence of W. P. Hill, Knightstown, Indiana, by the Rev. S. B. W. Shryock, J. H. Stuart, M. D., of Spiceland, Indiana, to Annie M. Lynch, of the former place.